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AVIS

A MM. LES EXPOSANTS ÉTRANGERS DE L'EXPOSITION DE L'ANNÉE 1851.

Le Rédacteur du Journal d'Eclairage au Gaz a l'honneur d'annoncer aux inventeurs et propriètaires d'appareils pour la fabrication, distribution, et les emplois à l'usage du gaz, qu'il est pret a se charger de leurs intérêts, pour la grande exposition internationale de l'année prochaine. S'addresser franco au Rédacteur du Journal, 32, Bucklersbury, à Londres.

NOTICES.

Parties who receive the JOURNAL OF GAS LIGHTING *through Booksellers are requested to take notice that the Office for its publication is removed from* 21, *Paternoster-row, to* 88, *Cheapside.*

All communications and orders for Advertisements to be addressed to the Editor, 32, Bucklersbury, London.

All back numbers exceeding three months' date will in future be charged double price, unless six or more consecutive numbers are taken at the same time. Nos. 6, 12, 13, and 15, are nearly out of print, and can in future only be obtained with complete sets of the Journal.

The Editor will be particularly obliged by his friends forwarding to him Notices of all Meetings, Trials, or Appeals which it may be interesting to the Gas World to have reported.

Circular to Gas Companies.

THE operations of the Great Central Gas Consumers' Company have attracted a large share of the attention of the metropolitan gas consuming public during the past month, and, were we to place implicit reliance on the rumours current, relative to this unfortunate concern, its affairs were approaching a crisis which threatened to be fatal to its existence. We believe, however, there is no doubt that the actual power of producing gas falls short by one-half of what was calculated upon by its projectors, while the loss by leakage is doubled, and *that one-half of the entire of the retorts of the establishment are at the present moment employed in supplying gas to less than* 200 *lights.*

The information we have received fully corroborates the accuracy of the statement made in the report inserted at page 149 of the January number of this Journal, that the average daily yield of gas from each 12½ inch D retort, 7 ft. 6 in. long, set upon the system adopted in the new works, was in reality only 1868 feet, and not 4000 feet, as stated by the projectors. We have reason to believe that the average yield per day has hitherto been less than 4000 feet for each 18 ft. retort heated.

No one who witnessed the manner in which the pipes were (to use a homely expression) pitchforked together will be at all surprised at the fearful leakage which is acknowledged to exist in the mains. Branches without plugs, or a few lengths of pipe omitted here and there, might have been reasonably expected in a work of this magnitude, hurried on night and day by different gangs of men, each ignorant of the proceedings of its predecessor. But the occurrence of numberless joints without lead or yarn, split sockets, and unproved pipes, are unpardonable acts of negligence, which threaten to be a perpetual incubus on the concern, though we scarcely agree with some parties who tax the respectable contractors for the laying of the pipes, with being in league with the contractor for manufacturing the gas, notwithstanding that at the present time, and for a long time hence, the gas *lost* must considerably exceed that *sold* and paid for.

That a gas establishment with a leakage of one hundred million feet a-year, out of a manufacturing power of two hundred and twenty million feet, is no longer to be dreaded as a formidable rival, is evinced by the announcement of the disinclination of the existing companies to put any of those persons to inconvenience, who had given notice of their intention of discontinuing to deal with them on the 29th of September, by cutting off the supply, but, on the contrary, they have both expressed their willingness to continue it so long as any of their customers are inclined to remain with them. At present, we believe, the changes are under twenty in number.

It will be in the recollection of our readers that, with the view of coercing the defaulting shareholders and contractors for gas into the execution of their engagements, a committee of twenty active shareholders from different districts was appointed on the 4th ult., and their report, which is given in another column, was issued on the 25th. From it we learn that the estimated liabilities of the concern on the 16th ult. were £42,535, but, as this estimate is based upon Mr. Croll's original one of £103,833 for the works, mains, meters, and services, we may be permitted to doubt whether this sum will cover the large extra claims of the contractors and others which are now under discussion. Our own opinion, founded on a careful examination, is, that upwards of £20,000 will ultimately have to be added to this amount, making the expenditure upwards of £160,000, exclusive of trading capital.

To meet the undischarged liabilities, the immediately available assets were, Cash (Sept. 16) £10,014 13 7

Deposits in cash with the Whitechapel and other commissioners	1,650	0	0
Contractors' shares unissued	12,030	0	0
	£23,694	13	7

The arrears on calls, and calls remaining to be made, are stated to be £17,630, the great portion of which, it is well known, is due from parties who have signed the deed for large sums, and are not in a situation to fulfil their engagements, so that this item can scarcely be reckoned as an available asset for more than £5000. Small, however, as this sum is, it was deemed advisable that another almost hopeless attempt should be made to realize it before the disasters of the concern forced themselves upon the attention of the shareholders, and hence the circular of Sept. 25th.

How the engagements with the Mile End and Whitechapel authorities are to be provided for or got rid of does not appear, unless the forfeited shares can be placed and a loan effected (neither of which appear very probable in the present state of the concern), or, whether at the approaching general meeting of the shareholders, Robert Macaire's well-known announcement,

"*Messieurs, le tour est fait,*" "Gentlemen, the feat is accomplished," will be repeated, events will prove; but when we find that £16,516 has been paid, or is due, for law, parliamentary, and preliminary expenses, and that £3260 has been paid to engineers and surveyors, on account, it is quite certain that the professional projectors will have no cause to complain, whatever may be the fate of the 666 confiding shareholders.

We have devoted a considerable space in our present number to the record of what we would fain hope to be the expiring efforts of the metropolitan gas agitators. After the concessions of the last nine months, we had no expectation that a higher rate than 5s. per 1000 feet from Newcastle coal gas could be maintained in any portion of the metropolis, but we cannot refrain from especially commending the policy adopted for some years past by the Imperial Gas Company in giving to all their superior officers, over and above their stipulated salaries, a direct and pecuniary interest in the prosperity of the undertaking. By this, and a liberal extension of their lighting into districts at first unprofitable, this company has woven around itself a web of local influence and popularity, which has happily withstood the tempests of selfish agitation. The reduction which the public are led speedily to expect, strikes off upwards of £20,000 a year from the income of this company, and when it is borne in mind that, with a gas rental of little more than double that of Manchester, it has nearly eight times the length of main, some estimate may be formed of the onerous obligations which the supply of gas at 5s. impose upon it. If the facilities for the introduction of gas into private houses are liberally increased, we do not, however, despair of a moderate share of prosperity being still in store for the Metropolitan Gas Companies; but it is in the extension of domestic lighting that it must first be sought. Domestic lighting will always precede the use of gas for other domestic purposes. People must be familiarized with gas in their dwellings—their sitting-rooms—before they will properly understand its management, experience its comfort, and appreciate its cheapness. The lighting of shops and warehouses, of streets and public buildings, is too much an affair of business, too far off from the fireside to do much in bringing gas into general notice. The charmed circle of social life is its proper place; there it will obtain admittance and find a home. Tradesmen, professional men, merchants, all classes, in fact, must take gas light into their houses before its benefits will be known and properly felt. Thousands have done this, and in such cases gas is as much a necessary of life as food, and fuel, and clothing. But there are tens of thousands who have yet to learn this secret. In many of our large cities and most populous towns no effort, deserving the name, has yet been made to induce tradesmen who burn gas in their shops to extend its use to other parts of their premises, or to invite the attention of private families to its advantages as respects convenience, safety, and economy. Those gas companies who do not bestir themselves in a matter which so much concerns their own interests, have no right to complain that the sale of gas does not increase; nor must they wonder if their neighbours go a-head of them. We know where efforts rightly applied have caused the sale of double, and even treble, the quantity of gas in a comparatively short period; whilst other companies, just as favourably circumstanced, have jogged along at the old pace, only becoming sensible of their mistake when too late to correct it.

The safest, the best, the only corrective for the effects of low prices is increased consumption (subject, of course, to proper management on sound commercial principles). If gas companies will conduct their business on the same principles, and pursue the same plans which succeed so well in other branches of trade, they must prosper. A large field is open before them. If it be well cultivated there will be an ample reward for capital and labour. We repeat, however, that whatever be the capabilities of gas for cooking, or warming, or ventilating, its application to any one of these purposes must be preceded by domestic lighting. Just in proportion as the use of gas light in private houses is extended, so will the facilities be increased for using gas for other domestic purposes.

A good deal has to be done, and a really cheap apparatus has yet to be provided, before cooking by gas can become popular. In this respect we are a long way behind ordinary fittings for lighting, in which elegance and cheapness are so well combined, that, if people go to the right market, they will have no cause to complain. A rumour has reached us that a cheap cooking apparatus has been made. We wait further information on the subject. In this and every other invention connected with the use of gas, we wish it was possible to arrive at once at the real facts as to cost and capabilities. On one side there are exaggerations, on the other abatements; but, where is the truth?

Many of the foregoing remarks have been suggested by a new edition of Mr. Rutter's little book on the "Advantages of Gas in Private Houses;" a publication which has done good service to the science of gas lighting. It carries on the title-page its own commendation, 80,000 copies having been sold for gratuitous distribution in this country in little more than seven years. No one has worked harder and, as we happen to know, more successfully than Mr. Rutter in this, his favourite sphere of gas operations. Gas in private houses is a theme on which he never tires; divesting it of all its technicalities, he writes in plain and simple language, imparting to the subject a practical application, which convinces as well as instructs.

In another column we give an abstract of the return made by incorporated gas companies, in compliance with Mr. Hume's motion. It affords matter for much comment; but our limits do not now allow us to allude further to it. We have (principally from our own knowledge) distinguished those companies using cannel coal, from such as use the common coal.

Communicated Articles.

ON THE APPLICATION OF CARBON DEPOSITED ON GAS RETORTS AS THE NEGATIVE PLATE IN THE NITRIC ACID VOLTAIC BATTERY.

By Christopher Leefe Dresser, Esq., *of Leeds.**

In the retorts used for the destructive distillation of coal to form carburetted hydrogen gas for illumination, after a certain period a deposit of a carbonaceous nature is formed on the iron, and once commenced, proceeds with great rapidity, accumulating to such an extent as to close up part of the retort, and leave the whole with a coating varying in thickness from that of writing-paper to several inches.

This carbonaceous matter, though a good conductor of heat, is not so good as the iron of the retort, consequently the process of distillation is impeded, and the waste of the heating power becomes at length so great as to compel the disuse of the retort.

In many instances the iron of the retort is destroyed for a considerable space, and its place supplied by the carbon long before it is necessary to destroy the retort. From the continuous thickening of the deposit, it is evident that the process of deposition once commenced by the iron is continued by the red hot carbon.

The property of red hot carbon to decompose hydrocarbons, was proved from the fact of a common broom having been accidentally thrown into one of the retorts, which when charred by the heat rapidly decomposed the gas, the carbon of which formed a singularly beautiful deposit on the slender stems of the broom, being deposited like branches of coral, hard, elastic, of considerable length, and very pure.

The substance assumes a variety of forms and appearances, some of them very beautiful. The density and hardness varies also as considerably.

The form of the deposit appears to be either minute scales, like a section of a hollow sphere, or thin layers.

The scales are deposited on each other till the whole takes the form of mammillar protuberances, sometimes of great metallic brilliancy, as specimen No. 1, having but little aggregation and easily crumbled betwixt the fingers. This I believe to be pure carbon, though when heated sulphur is driven off, which appears to be mechanically mixed and not chemically combined, for heat drives it off, and leaves the scales brilliant and unaltered in appearance.

Specimen No. 2 has the same form as No. 1, but more aggregated.

Specimen No. 3 has the same form, with considerable hardness.

Specimen No. 4 has the same type, but the mammellar protuberances are large and apparently solid, but when exposed to a red heat for an hour, exhibits the same laminar form as the other. This specimen is very beautiful and singular.

Specimen No. 5. The mammellar form appears lost. The carbon has great hardness equal to black marble, and the fracture is stony without any laminæ.

Specimen No. 6. Another appearance is presented of great metallic brilliancy, density, and hardness.

Specimen No. 7 is the same form as deposited on the charred broom, in needle-shaped ramifications, and when magnified is like a string of beads, very hard, elastic, and composed of pure carbon, at least I have been unable to detect any foreign substance, and there is no appearance of sulphur when heated.

Specimens Nos. 3, 4, 5, and 6, contain iron in a metallic state, but

* The author states that he will be happy to furnish the carbon, or in any way aid any one who may be inclined to repeat his experiments.

varying considerably in different specimens. No. 5 contains the greatest amount.

These forms of carbon will bear the most violent heat with very little waste. In my crucible furnace, urged with a large circular fan, raised far beyond a forge fire, it suffers but little waste, and gives an intense heat. Formed into crucibles, by a lump being cut hollow in a lathe, it is most valuable, standing where all others fail.

The forms of this carbon, as shown in Nos. 5 and 6, are what I prefer in the voltaic battery, and may be obtained at any gas works at the most trifling cost, in plates of large size, and sufficiently thin to use in the square cells.

The most convenient form, and involving the smallest cost, also preferable in many respects, is to cut the carbon into sticks of about 1⅛ inch diameter and 7 long, and use them with the nitric acid in round porous cells, the surrounding zinc cylinders being about 3 diameter.

The cutting of the carbon is accomplished with the greatest facility and certainty, by the machine of a marble cutter, at the small cost of 1¼d. each, and can easily be obtained from 6 to 18 inches long, and consequently used with much longer porous cells.

The substance has but little porosity, but I prefer having the plates or cylinders about two inches above the top of the porous cell, as they will then remain in action for hours without affecting the connexions.

The only precautions necessary are, after use, to immerse the plates in boiling water for a few minutes to abstract the acid, also to dry them well before a fire or in a stove, immediately previous to use; if these precautions are neglected the acid will absorb moisture from the air, and be always damp and affect the connexions. Often when in haste I place them on the fire, and sometimes heat them red, which in nowise deteriorates, but rather improves their action.

Having used the same plates and cylinders for a long time, no deterioration of their conducting power, nor any decomposition or alteration has been observed.

The connexion is made by soldering a strip of copper to the zinc, and pressing this very strongly against the carbon with a clamp.

The more firmly the copper is pressed against the carbon the better will be the connexion. The copper should always be made bright where the contact with the carbon is made, and the surface of the carbon rubbed very smooth. The other parts of the carbon plate or prism may be left as taken from the retort or saw, its roughness increasing its acting surface.

Comparing these plates with plates of platinum of equal size, I can detect no difference, and from their cheapness and durability they will make a valuable addition to our voltaic apparatus.

With a battery of 90 plates the voltaic light was of the most splendid description, 1¼ inch long and very voluminous. My garden and a large field were brilliantly illuminated. The trees presented a very singular appearance; the leaves looked white instead of green. Small print was easily read at a considerable distance without any reflector behind the light.

The cost of a battery of 100 pairs will be about £4, whilst one of equal power with platinum negatives would be £60 or £70.—*Chemist.*

THE HISTORY OF THE GAS METER.

(*Continued from page* 190.)

The diaphragm dry meter has been produced by a combination of the leading features of two well-known machines, the common bellows and the steam-engine; and it is interesting to notice in its development the blending of those two machines into each other, and the gradual preponderance of the latter as the instrument approaches completion.

In the first meters the bellows form seems to be alone recognizable, while in its present state the meter resembles the steam engine so much that it seems only to differ in its pistons being flexible instead of rigid, and that it is moved for the purpose of measurement instead of for the transmission of power.

To give a simple elucidation of the first diaphragm meter, we will turn for a moment to the common bellows.

If the handle of these be raised, a portion of air will be admitted by the valve in the under side equal to the enlargement of the chamber, and if the handle be depressed to the same point the whole of the air will be expelled by the nozzle; and supposing the capacity of the bellows to have been ascertained, and each stroke registered upon a counting apparatus, the entire quantity of air thus passed through by any number of strokes might be correctly registered.

Even gas may be thus measured; for if the pipe leading from the gas main was attached to the opening in the under leaf of the bellows, and the pipe leading to the burners (which must, however, have a valve shutting inwards placed in it to prevent any gas which has once passed through being returned), a series of strokes of bellows so constructed would pass so many volumes of gas from the one pipe to the other. These quantities would, it is true, be irregularly delivered; but if two or three such bellows were arranged together, the one might deliver while the other received gas, and thus a constant stream might be kept up.

The only alteration in such an apparatus to render it a dry gas meter is to make the gas the *mover* instead of the *moved*, and this change is analogous to the conversion of the archimedian screw into the water meter, explained in the first part of this paper, the mode of effecting which will be apparent in the description of the first dry gas meter, to which we shall presently call attention.

This, then, is the *basis* of all our present dry meters, the principal differences between which are the number of bellows employed in one machine. Some have only two, some three, and so on up to six bellows.

The first dry meter of which we have any distinct record occurs in the patent of John Malam, in 1820. It is shown at fig. 1, and consisted of

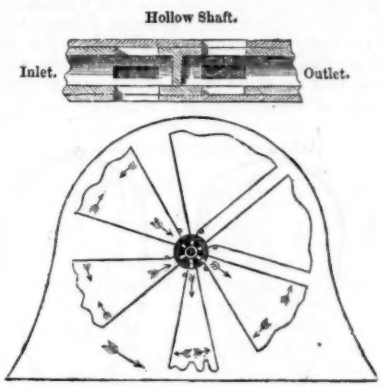


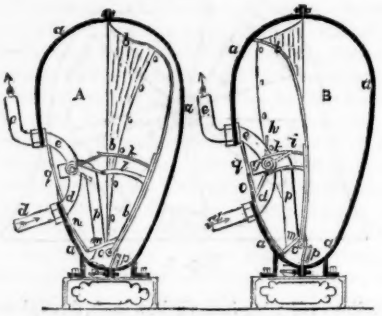
Fig. 1.

six pairs of bellows radiating from a hollow shaft, through which the gas is allowed to enter and be expelled from each pair in succession by slits and valves. The hollow axis is closed by a partition plate within it, so that the gas, in entering into that pair of bellows, the opening into which is passing the orifice or slot on the inlet side, is at the same time escaping out of the opposite pair by the opening which is passing over the slot on the outlet side of the hollow strap. The six pairs of bellows have each loose metal plates, which are connected with six other rigid plates (radiating from, and fixed upon the axis) by a flexible material, and the wheel thus formed of bellows revolves upon its axis in consequence of the equilibrium being destroyed by the gas entering one of the bellows, and raising its moveable plate so as to cause it to quit its vertical position and to assume an inclined one, which throws it out of its centre of gravity, and causes the wheel to turn in order to restore its equilibrium. In like manner the gas enters the others in succession, and thus an uniform motion of the wheel is produced, the bellows emptying themselves constantly on the opposite side of the centre to that at which they are filled, which effect is promoted by the weight of the moveable plate.

Whether this machine ever progressed beyond the inventor's drawings and models we have not been able to learn, but the probability is that it did not, but was left to moulder in the archives of the Rolls chapel, that great cemetery for the efforts of genius, for very few at the present time are at all aware of the existence of such a machine. Had its introduction into use been attempted it could not have been successful, for, besides the then want of knowledge of the proper material out of which to form it, and other minor details since acquired, it had, as a mechanical production, a fault in principle which no care or attention to details could ever have remedied, and which must have proved fatal to that as it has done to other meters in which the same defect has existed: this was, that the valves had no direct maintaining power capable of being increased by the increased pressure of gas. That which caused the shaft to rotate was the disturbing of the equilibrium of the wheel; and as this could not be disturbed to a greater extent by a greater pressure than by a lesser, a certain amount of friction on the axis would arrest the progress of the machine, whatever pressure might be brought to bear upon the gas. One of the dry meters made at the present day has a similar fault in principle, which will be pointed pointed out when the machine is under review.

From this time to the year 1833 no attention seems to have been devoted to the dry meter. In that year, however, a machine was introduced from America, patented by Mr. Berry, but understood to be the invention of an intelligent workman of the name of Bogardus. The patentee states in his specification that dry gas meters had been made before, but had failed in their desired effect, from the friction and complication of the parts of the apparatus. One of the desired features of this invention was, that it shall work with as little friction as possible, so that the least possible opposition shall be offered to the gas as it passes through the meter; so that gas, at a very low pressure shall be capable of passing through it, and, at the same time, the quantity of cubic feet shall be measured and registered correctly. This meter is formed as a hollow chamber or vessel, perfectly air-tight of itself, and divided or separated into two portions or chambers, by a moveable and flexible partition or diaphragm, that is, the partition is connected by a flexible medium, placed around its edges, to the chamber, so that the partition will be allowed to vibrate or move from one side of the chamber towards the other, and yet form a gas-tight partition between the two sides or chambers; one of these portions or chambers is constantly open to the supply pipe from the gas

main, and the other open to the gas burners. The vibratory movements of this partition or diaphragm are registered by a pall and ratchet wheels, with a train of gear wheels, dials, and indexes, similar to those used in gas meters of the common construction; and at the time the diaphragm or partition vibrates, and has arrived at the extent of its motion, it is made, by means of a lever and spring, to open and shut, or change instantaneously the apertures or ways in the cock which connect the gas pipes with the meter and burner. The cock has four ways or passages through it, two of which lead from the gas pipe or main, and the other two are individually connected to the two portions or chambers. As many different variations may be made in the form and arrangement of the parts of this improved construction of gas meters, two different forms of meters are described, one having the works inside of the casing or chamber, and the other on the outside.



Figs. 2, 3.

Fig. 2 is a vertical section, taken through the meter, showing the partition or diaphragm at its extent of motion; and the cocks, springs, and levers, in the position they would be immediately before the change of the passages of the cock is effected. Fig 3. is another similar section to fig. 2, showing the flexible partition or diaphragm at its extent of motion on the opposite side to that in fig. 3, the same letters being used to denote similar parts in all these and the following figures: *a*, *a*, *a*, is the case or vessel, divided into two portions or chambers, A and B, by the flexible partition or diaphragm, *b*, which is mounted to turn on a hinge joint at *c*, near the bottom of the case. The case or vessel is, in this instance, represented as of an egg-like figure, and may be made of cast iron or other metal or material in two parts, and joined together by flanges and screws, with the edges of the flexible partition or diaphragm placed between them, and a slight packing of leather may also be used to render the joint air-tight: *d* is the pipe leading from the street pipe or gas main, and *e* the pipe leading from the meter to the burner; *f* is the four way cock; *g* is a spring, coiled round the end of the plug of the cock, which throws or changes the ways of the cock, and alters the passages for the gas into and from the meter: *h* and *i* are two levers, fixed on to the other end of the plug of the cock; *k* is a projecting arm, fixed on to the partition *b*, which acts alternately in conjunction with the levers *h* and *i*, the lever *h* acting against the under, and the lever *i* acting against the upper surface; *l* is another arm, projecting from the partition, having a pin on its end, which works in the slot formed by the double end of the coiled spring, *g*; *m* is a short lever fixed on to the partition near the hinge joint, and which communicates the movements of the partition through the pall or lever, *n*, to the ratchet wheel, *o*, and that through the train of toothed wheels to the dial and indexes; *p* and *q* are two apertures or pipes, opening into the two chambers, A and B, for the escape of the gas from the chambers to the burners.

As the gas is consumed from the chamber, B, the other chamber, A, is filled from the gas main or street pipe, through the pipe, *d*, and cock, and entering the chamber at the aperture, *q*, the expansive force of the gas being disseminated over the whole surface of the flexible partition or diaphragm, will cause it to vibrate or move from one side of the chamber towards the other, and bring it, with the levers, springs, and arms, into the position shown in fig. 2, that is, with the bent arm of the lever, *h*, pressing upwards upon the under surface of the arm, *k*; at the same time, the pin on the end of the arm, *l*, acting in the slot on the end of the spring, *g*, has forced the spring to uncoil in a slight degree; but the spring is prevented from turning or shifting the plug by the bent end of the lever, *h*, pressing upon the under side of the arm, *k*; but the moment the bent end of the lever, *h*, has passed the end of the arm, *k*, the spring, *g*, is free to recoil, and its tension throws or shifts the plug of the cock instantaneously, thereby instantaneously cutting off the connexion of the chamber, B, with the burner, and opening a communication with it and the gas main, and, at the same time, forming a communication from the chamber, A, to the burner, the gas will then immediately begin to escape from the chamber, A, through the aperture, *q*, and through the cock, *f*, and pipe, *e*, to the burner; and, when the proper quantity of gas has been consumed, the pressure from the main will have brought the flexible partition into the position shown in fig. 3; then the pin on the arm, *l*, will have forced the spring to be coiled somewhat tighter than when it is out of tension, which will cause the bent end of the lever, *i*, to rest upon the upper part of the arm, *k*, as shown in fig. 3; and as soon as the bent end of the lever, *i*, has passed the end of the arm, *k*, or the bent part nearest the partition, the spring will be again free to throw or shift the cock back again into its former position. It will be, therefore, seen that the length of the arm, *k*, or the extent which the ends of the two levers, *h* and *i*, travel on its upper and under side, will determine the extent of vibration or movement of the partition, and the quantity of gas consumed between the extreme points of such movement or vibration, will be the quantity measured and registered by the indices and dial, the lever, *m*, and the pall, *n*, only moving the ratchet wheel, one tooth during two vibrations. It will be evident that the space or extent of vibration of the flexible partition may be adjusted to measure any quantity required to be registered, and that gas of any pressure may be passed rapidly through the meter, the gas having no way of escaping but through the cock; and all that passes through it must be measured; *r* is a small cup or reservoir, screwed air-tight upon the end of the pipe, *p*, which projects through the case, and is there placed for the purpose of receiving any acid refuse or other extraneous matter which may escape from the gas main, and is intended to prevent its getting into the meter: this cup may be removed and emptied from time to time, as required.

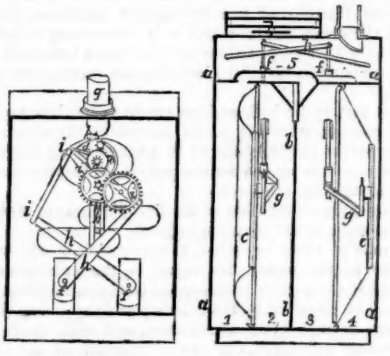
This meter on its first introduction was a very rude piece of mechanism, but after having gone through a series of improvements it was, in its altered form, offered to the public by a company, known as the "Dry Meter Company," which had become the purchaser of the patent.

The flexible parts were at first made of prepared silk, but the gas being found to act upon this material, leather pressed into convenient shapes was substituted for it. The valves first used were clack valves lined with leather, but metal sliding valves were subsequently adopted.

In its improved form this meter is the simplest of all the dry meters. There was some difficulty in making it act in such a manner as to allow of an equable passages of gas through it; for, at the instant when each chamber changed from a receiving to a discharging one, an oscillation of the lights took place. This, however, by accurate workmanship was ultimately nearly overcome. The cause of its failure was, however, a fault in principle, similar to that of Malam's. The valve had no direct moving power communicated from the pressure of the gas. It was moved by the tumbler, and when it became stiff, the tumbler ceased to have the desired effect. If, therefore, the tumbler was made very heavy, to provide against the greatest possible stiffness of the valve, its weight would have entailed a great loss of pressure in the gas transmitted, and if, on the other hand, the tumbler was made just sufficiently heavy to move the valve when new, it could not continue to perform its duty for any length of time: the latter was the evil chosen, and the result was the stoppage of the valve midway in its passage.

The same ingenious Bogardus, who, it is asserted was defrauded of his first invention (how often, alas! the fate of men of genius), invented another machine, patented in this country in 1836 by a Mr. Sullivan, which has been but little improved to the present day, and hence Bogardus is entitled to rank as the *Inventor of the dry meter.*

This invention consists in combining the motion of two flexible pistons or surfaces acted on by fluids, by means of certain levers and connecting rods, so as to give continuous rotatory motion to a cock or valve through which the fluid to be measured has to pass, in order to the quantity being indicated, as will be hereafter described.



Figs. 4, 5.

Fig. 4, is a plan of the meter, the top plate or cover being removed.

Fig. 5, shows a transverse section of the meter, by which the position and nature of the flexible pistons or surfaces are applied, and work.

In each of these figures, the same letters of reference indicate the same parts: *a*, *a*, being the external chamber, which is, by preference, of a cylindrical form. This chamber, *a*, *a*, is divided by a plate, *b*, into two equal parts, and these two equal parts, by means of flexible pistons or surfaces, *c*, *c*: hence the chamber, *a*, *a*, is divided into four equal compartments, Nos. 1, 2, 3, and 4, which are separated from each other, and the gas in one has no communication with another. But

they each have a communication through the cock or valve, *d*, into the chamber No. 5, which is at the top of the meter; and each of the compartments, Nos. 1, 2, 3, and 4, are, by aid of the cock or valve, made to communicate with the induction or gas supply pipe, *e*; hence the gas coming in at *e*, cannot pass the chamber No. 5, without having acted on the flexible pistons or surfaces, *c*, *c*, all which will be readily understood when the action of the meter, *f*, *f*, on the axis of the flexible pistons or surfaces, *c*, *c*, is described; they pass through the top of the lower compartments, and are supported by suitable conical stuffing boxes, in order to prevent the gas passing from the compartments Nos. 2 and 3 into the chamber No. 5.

The flexible pistons, *c*, *c*, are attached to these axes, *f*, *f*, by means of arms, *g*, *g*, which being affixed to the axes, *f*, *f*, as is shown in the drawing; and the other ends of the arms, *g*, *g*, being connected by a moveable point to the circular plates which form the centres of the flexible pistons or surfaces; these being attached by their edges to the interior sides of the case, as hereinafter shown, the axes, *f*, *f*, will be actuated by the movement of their flexible pistons or surfaces *c*, *c*, as will be readily understood by an examination of the drawing.

The flexible pistons or surfaces, *c*, *c*, consist of any suitable flexible material, which is securely affixed within recesses formed within the chamber, *a*, *a*, of thin sheet lead, there being a circular wire hoop to each recess, and the edges of the flexible materials of which the flexible pistons, *c*, are formed, being put around the hoop, the pistons are thereby made gas-tight, the lead or other thin metal of which the recesses are formed, being turned down on the flexible material, and thus binding the flexible material between the sides of the recesses and the wire hoops; and in order to ensure a gas-tight joint, bees-wax, or other suitable material, may be used between the surfaces of the recesses and the wire.

The centres of the flexible pistons or surfaces are each held between two circular plates of tin or other suitable material, which plates are rivetted or otherwise affixed together; and to these plates the staples or openings (for the connecting pins of the arms, *g*, *g*, to work in) are affixed.

The flexible material of which the pistons, *c*, *c*, were made, was of the best oiled silk of commerce, which was found to wear for a considerable length of time; or of thin deer-skin leather, or other leather or animal membrane, saturated with bees-wax mixed with neat's-foot oil, or any suitable material which will offer the least possible friction on the bending thereof, and be as little liable as possible to be injured by the chemical action of gas, and at the same time of a close texture, to prevent the gas passing from one compartment to another.

At the upper end of the axes, *f*, *f*, are affixed the arms *h*, *h*; and or these arms, *h*, *h*, are connected, by pin joints, the rods, *i*, *i*, as is clearly shown; and the rods *i*, *i*, are connected together by the passage of the cranked wire *j*, through an eye or opening formed in each of the connecting rods *i*, at the ends opposite to where they are connected to the arms *h*, *h*.

The cranked wire *j* moves in suitable bearings in a bracket, *k*, as is clearly shown in the drawing. At the upper end of the cranked wire *j*, is affixed a toothed pinion, which actuates a series of wheels and pinions, by which the number of revolutions of the cranked wire *j* are indicated, and the quantity of gas which has passed through the meter will be registered, as is well understood by gas-meter makers.

It should be remarked that the flexible pistons or surfaces, *c*, *c*, should be so set in respect to each other, as not to arrive at the end of that movement at the same time, but that one should be in full action at the time the other comes to the end of the stroke. This may be done by making the arms, *h*, *h*, *i*, *i*, of such length, that the arms, *i*, *i*, when their ends are united free from the crank, and are brought or placed for the purpose over the centre of the valve, these ends will form with each other a right angle. This is the test of the proper length of these arms.

(*To be continued.*) X. Z.

DESCRIPTION OF A NEW METHOD OF HEATING BY GAS.

By D. O. EDWARDS, Esq., M.R.C.S.

Read before the Royal Institute of British Architects, June 10, 1850.

As it has been thought that my new mode of converting coal gas, hydrogen, and other elastic fluids, having an affinity for oxygen, into fuel for the production of fire, might interest the institute, I take the opportunity which the exhibition of the invention affords to offer an explanation of its plan and purpose. I have applied the term "Atmopyre" to the whole arrangement, because it is sufficiently indicative of its nature as a "solid gas fire," and because the constituent syllables of the word are already familiar to the public. In order to convey an accurate idea of the scheme in the shortest possible time, I will briefly describe the steps by which I arrived at the complete construction of the apparatus.

The invention to which I venture to solicit the attention of the institute is an attempt to solidify flame, or rather to render its solidity permanent. It is well known that flame is a hollow cone, its exterior being formed by the evanescent particles of carbon, which being for a moment precipitated in a solid form after the combustion of the hydrogen, and raised to a white heat, give out light in virtue of that transient solidity. This occurs the instant before the union of the carbon with the oxygen of the air, and their conversion into carbonic acid, which forms an invisible pellicle round the flame. The heat to which this carbonaceous shell is raised is very high, but, as soon as it is engendered, it is carried away by currents of the surrounding atmosphere. The possibility of arresting and detaining this heat was the problem which I proposed to solve.

Meditation upon Sir Humphry Davy's safety lamp afforded me a clue to the desired solution. The safety lamp is a chamber, which, when its preserving agency is required, is filled with flame. The walls are perforated with minute holes, through which air and gas freely pass, but which are impermeable to flame. The incandescent gas, in its transit through these apertures, is robbed of its heat, the flame is extinguished, and the heat is developed in the wire gauze, which, as Sir Humphry states, becomes red hot. Here, then, the purpose of the great chemist was fully answered by abstracting the heat from the flame, and throwing it away. Could another purpose, that of producing fire without smoke, be accomplished by retaining and accumulating this heat?

Coal gas and other inflammable vapours are capable of perfect combustion; flame is an instance of this perfect combustion; but flame is transient, and its high temperature is momentary. Davy's lamp, however, showed that this heat could be caught and collected. The material of the Davy safety lamp, as well as other metallic textures, except platina, which is too expensive, were ineligible for my purpose because of their rapid oxidation, or the deleterious or disgusting effluvia emanating from them. The desideratum was a substance which should not be chemically acted upon by great heat, and yet should have the property of retaining it. Such a substance is earthenware; but earthenware, with a few exceptions, is not refractory, and cracks when placed in contact with flame.

One of these exceptions, and one which possesses the refractory property to perfection, is the material of the common tobacco-pipe. Of this I formed a little vessel perforated with holes, the 50th part of an inch in diameter, in imitation of Sir Humphry Davy's gauze. Gas was introduced into it, and there mixed spontaneously with atmospheric air, forming a kind of artificial firedamp. This mixture, being ignited on the outside of the vessel, discharged itself in numerous diminutive explosions, the earthenware was enveloped in a coat of pale blue flame, became soon red hot, and presented the appearance of a solid red flame.

These little vessels have been made of various forms and sizes, but for common domestic uses I have employed a small cylinder, varying in length from two to four inches, perforated as already described, and having a circular opening at one end, which should fit exactly upon the burner No. 4, commonly used by gas-fitters. This cover or "hood" is the exact converse of Sir Humphry's lantern. The explosive gas is inside instead of outside; the flame on the exterior is prevented from penetrating and kindling the contents of the chamber by the narrowness of the apertures. The explosive mixture, being minutely divided, is burnt piecemeal at the outer orifice of each hole, producing a slight murmuring noise, and great heat is evolved, which, instead of escaping, accumulates.

A single "hood" being placed on one of the burners described is heated to dull redness in the course of a minute; but an aggregate of "hoods" placed in juxtaposition, and enclosed in an earthenware case, are heated to an orange colour, and the case itself becomes bright red. It was necessary, therefore, that the case should have a fireproof power as well as the "hoods" which it enclosed. This property has been imparted to it by attending to the ingredients of which the earthenware was made, and to the mode of burning them. A mixture of two thirds Stourbridge clay, and one third frit, or Stourbridge bricks, pulverized, burnt for fifteen hours rapidly, and cooled quickly, acquires sufficient refractory power to answer the purpose in view.

The "hoods" themselves are best made of a proportion of one third china clay to two thirds common pipeclay. For furnaces the proportions must be reversed otherwise, the quantity of iron which the ordinary pipeclay contains would act as a flux, and the "hoods" would melt. For all common purposes, a mixture of two thirds fresh pipeclay with one third of pipeclay already burnt would be thoroughly efficient. These "hoods" may be coloured with metallic oxides; they are blackened, for instance, by one third proportion of the black oxide of copper. In some cases they are hardened by these modifications, in others made more brittle, but in all they lose much of their heat-retaining quality.

I had now produced a "solid visible fire," which I conceived had many advantages over the established mode of obtaining heat from the combustion of coal or wood.

1st. By ensuring a perfect combustion of the fuel, the formation of smoke, with its attendant inconveniences, is prevented.

2nd. A complete control over the quantity of fuel consumed is ensured.

3rd. The heat generated may be concentrated and distributed at will, which makes it subservient to the purposes of ventilation; the admission of pure warmed air and the extrusion of the used atmosphere being rendered practicable.

4th. Its cleanliness, and the facility it affords of accurately measuring the heat it gives out, augment the nicety, delicacy, and economy of cooking.

5th. The greater facility of manipulation diminishes the expense of labour.

6th. Its plasticity and Protean capability of form occasion but little interference with the symmetry and beauty of the architect's designs.

The "Atmopyre" also possesses some superiority over the ordinary manner of applying the combustion of coal gas to the evolution of heat:—

1st. It has an accumulative or furnace power, a great intensity of heat being produced by insulating the burning fuel in argillaceous cases.

2nd. It presents a "visible solid fire," open to the apartment, and agreeable to the eye, giving, like the old hearth, a sense of companionship to the solitary student, and adding cheerfulness even to the social circle.

3rd. It affords a means of collecting and rendering manifest the heat of gases and vapours, of which the flame is invisible.

In respect of economy, the expense of the new fuel, at the present price of gas, is rather greater than the old. The saving is effected in the collateral circumstances—the control ever the quantity of fuel consumed; the command over the heat when produced; the lessened expenditure on account of dirt, and the diminished household labour required; the increased labour in the manufacture of gas being, in fact, compensated by the amount dispensed with, in the ways described. Each "hood" consumes five sixths of a cubic foot of the common carburetted hydrogen gas per hour, and a battery of eight "hoods" is sufficient to warm a good-sized room, measuring about 4000 cubic feet, if the doors and windows fit tolerably close. The daily expense of such a fire would therefore be about 6d., a sum which, considering the incidental advantages already named, may be said to be positively cheap.

The numerous perforations in each "hood," amounting to 90 on the average, secure a due supply of oxygen, and the perfect combustion of the fuel. It is requisite, however, that too much air be not admitted amongst the "hoods," which would have the effect of cooling them. Each volume of carburetted hydrogen requires for its saturation 2½ volumes of oxygen; and, as the oxygen constitutes one fifth the bulk of the atmosphere, it follows that perfect combustion requires 12½ times as much air as gas. Any quantity of air beyond this proportion acts as a vehicle to carry off the heat, and prevent its accumulation to a high intensity. These calculations in regard to expense are based upon a supposition, which is very improbable, that gas will be maintained at its present price. Should this necessary of town life be reduced to a cost of 2s. 6d. per 1000 cubic feet, which the present advanced state of science and the enterprising activity of capital render morally certain, the "gas fire" will become absolutely cheaper than a "coal fire."

The fitness of the "Atmopyre" to secure a perfect ventilation has been exemplified in my own parlour, by means of an apparatus such as is now exhibited. A battery of twelve "hoods" is enclosed in an earthenware case, which, becoming heated to 400 or 500 degrees Fahrenheit, constitutes a repository of heat. This is placed in an outer case of china, terra cotta, common ware, or any other non-refractory substance. The products of combustion are carried away by a small pipe entering the chimney. The fresh air is brought from outside the house, through a large pipe about six inches in diameter, which communicates, by means of a valvular iron plate, with the space contained between the two cases; the air ascends in this area in large quantities, is warmed in its transient contact with the inner case, enters the room through large holes in the top of the stove at 120 deg. Fahrenheit, and diffuses itself equably through the apartment, maintaining such a temperature as the inmates may desire. The air is quite free from dryness, or any empyreumatic smell. The used atmosphere at the same time enters the open mouth of the stove, which is wide enough to show the fire all round the room, and passes, without again entering the room, into the chimney, with the products of combustion. (The inner case forms an impenetrable partition, and ensures the perfect separation of the fresh air from that which is carried away.) In this way a perfect circulation of pure air is sustained. Some radiation takes place from the mouth of the fire, and from the sides of the outer case.

This "new fire" is applicable to every variety of culinary operation, to roasting, boiling, baking, broiling, &c., affording a steady and well-regulated heat. As roasting in conjunction with the new method is effected in closed chambers, an idea prevails that the meat s only baked. The error will be obvious upon a little inquiry. In roasting, a heat of about 350 deg. is sustained at the surface of the joint, which is but slightly charred, the fluids in the interior of the meat are raised to a temperature of 212 deg., and the flesh is thus boiled in its own juices. The internal heat cannot be greater than 212 deg., because at that point liquids are converted into steam, which never imparts a higher degree of heat.

In ordinary cooking the temperature at the surface is moderated by the revolution of the meat, and by the process of basting, which also prevents the excessive evaporation of the juices. Currents of air and carbonic acid are constantly impinging against the surface of the joint, but cannot affect its flavour, because the boiling gravy, in its centrifugal efforts to escape, shuts up every pore through which they could enter. In the case of the "Atmopyre," the revolution of the meat is unnecessary, because it is surrounded by a ring of fire. The atmosphere enveloping the joint is exactly similar to that which surrounds it before an open fire, and is equally incapable of affecting its taste. The difference between roasting and baking consists in the circumstance, that, in the former, continued currents of air, charged with carbonic acid, and moisture, pass over the surface of the joint; whilst, in the latter, the meat is always surrounded by the same stratum of air, which, being imprisoned in the heated oven, becomes very dry, attracts moisture from the meat, and modifies the formation of ozmazone, or the proper aroma of cooked meats, so as to give it a peculiarity of taste and flavour.

I have thus endeavoured to show that the "Atmopyre" is an economic source of heat advantageously applicable to all domestic purposes. It affords efficient means for purifying bedrooms, of warming libraries, galleries, repositories of works of art, halls, hot-houses and greenhouses, but especially (by reason of its freedom from dust) warehouses where delicate and precious goods are kept, and of ventilating crowded assembly-rooms. Its application to the arts, such as the formation of furnaces, &c., for which its accumulative power fits it, belongs to the province of the civil engineer; but a few remarks on its bearing upon the sanitary questions which now interest the public may not be irrelevant to those whose profession it is to construct edifices adapted to ensure the health and comfort of the population.

My own experience in the habitations of the poor shows that, next to the removal of the fœcula emanating from the human body, which the Sanitary Commissioners propose to effectuate by their one idea of drainage, nothing would tend more to the purification of dwellings, and the consequent health of towns, than the destruction or prevention of smoke. Dr. Boswell Reid counted the pieces of soot which were deposited on a square inch of the gauze through which the air supplying the Houses of Parliament is strained previous to use, and he found there were between 400 and 500 collected in the course of three days. This fact demonstrates the immense quantity of carbonaceous matter which must fall on the surface of the lungs, of which the superficial area measures more than 1000 square inches.

The human person, clothing, dwelling-houses, and every vestige of vegetation in the thickly-inhabited parts of London, are contaminated with this all-pervading nuisance; and the poor, after fruitless struggles, give up the hope of cleanliness in despair. Having lost pride in their abodes, filth of all kinds is allowed to accumulate; their clothing is saturated with black dust and the effluvia of their persons; the skin is coated with dirt, and thus a perpetual malaria is retained about them, more destructive to health than the emanations of over-charged sewers. This evil is aggravated by the agency of smoke, in depriving the poor of their natural supply of water. The quantity of rain that annually falls upon London, amounting to 25·18 inches, if collected in proper reservoirs, would satisfy a large part of the aqueous wants of the inhabitants, and signally contribute to their cleanliness and comfort. In many cities of the south of Europe, where they have not the lucky accident of a magnificent river, to serve at once as an inexhaustible well and a great cloaca, sufficient water is saved during the rainy season to supply the citizens for the remainder of the year. At Gibraltar the British Government has established a law that no house shall be built without a sufficiently large tank under its basement. And this law is without difficulty carried into effect.

The general corruption of the atmosphere from smoke, and other causes, render the perfect ventilation of public and private buildings most difficult to accomplish. Without a reservoir of good air, upon which to draw, it is impossible to supply apartments with a pure respirable medium. To obviate this obstacle, Dr. Reid proposes building over the new Houses of Parliament high towers, the shafts of which should supply avenues for the untainted air to be found in the higher strata of the atmosphere, and at present he partially attains his object by straining the air through muslin, and afterwards washing it by means of numerous jets d'eau. Such expensive and elaborate contrivances are quite out of the question in private dwellings, especially in those of the lower classes, and the only mode of attaining the desirable object of an universal supply of pure air is to prevent its adulteration by smoke and malaria. The general adoption of the "Atmopyre" would be attended with the first of these desirable results.

In warming and ventilating chambers and saloons, destined for the resort of that breathing and perspiring animal, man, the new apparatus will be found very effectual and manageable. No high shafts, no steam-engines, and no complex machines are required. The gaseous fluid is simply ignited, and the dynamic power of the rarefaction produced is sufficient to propel into the apartment the supply of warm air which is needed. The quantity of air necessary for the well being of an adult human being may be easily ascertained. Eminent chemists and physiologists have occupied themselves with this inquiry. Pre-eminently I may name Lavoisier, Davy, Liebig, and Müller, and the result of their investigations, according with my own experience, announces the fact, that each adult spoils, by the action of the skin and lungs, 280 cubic inches per minute. Allowing a wide margin for accidental variations, I state the amount at 360 cubic inches.

In this calculation the entire chemical demand only for oxygen is taken into account; but, as the human body is a heat-producing and radiating machine, it is necessary that the stratum of air which surrounds it should not be too stagnant, but that it should be continually renewed by currents. To produce this effect, we may allow a tenfold volume of air, which would raise the quantity required to 3600 inches, or rather more than two cubic feet per minute for each indi-

vidual. The Marine Barracks at Woolwich are supplied with air by means of a steam-pump, invented by Dr. Arnott, at the rate of 4000 cubic feet per minute, sufficient to keep in health 1000 men; this is equal to four cubic feet each man per minute. Dr. Reid allows each member of Parliament about seven cubic feet per minute. This is warmed at 55 or 60 degrees as the Houses may be crowded, or otherwise. A little inquiry will show us that an "Atmopyre," consisting of a battery of twelve "hoods," is adequate to warm and ventilate efficiently a moderate-sized room, such as the ordinary parlour or drawing-room of persons in the middle ranks of life, measuring about 4000 cubic feet.

Mr. Goldsworthy Gurney, after many experiments, ascertained that the velocity which can be imparted to a column of air in the shaft of a mine by means of rarefaction equals the rate of 1000 cubic feet per minute through a square cylinder of a foot calibre, or of rather more than ten miles an hour. This conclusion is perfectly within bounds when the great velocity of breezes and gales of wind, of which the motive power is rarefaction, is considered.

An "Atmopyre," to which a supplying-pipe of six inches calibre is attached, will, therefore, pump in air into an apartment at the rate of 250 cubic feet per minute; giving, according to Drs. Arnott and Reid, enough pure air for sixty soldiers or thirty-five members of Parliament. The whole quantity of the respirable medium of such an apartment may thus be renewed every sixteen minutes, and its temperature raised at a regular rate of increment.

As houses are now constructed, no air is supplied but what enters through cracks and keyholes; and chilly people in the cold seasons, knowing that air is associated with cold, do all they can to exclude even this modicum. They are occasionally so successful that fires will hardly burn in their rooms, which are consequently filled with smoke as well as miasmata. With regard to the poor, who are so notoriously opposed to free currents of air, their prejudice is not so very unreasonable. Having but little fuel, and no superabundance of food, instinct leads them to value the present and tangible good *warmth*; and they are naturally loth to purchase a supply of oxygen, of the value of which they are ignorant, by a sacrifice of that heat, which is equally indispensable to their health, and more difficult to procure. Could they be supplied with air and warmth combined, there can be no doubt they would gladly avail themselves of the boon.

The system of warming apartments by the introduction of heated air has the benefit of equalizing the temperature; the warmth spreads on all sides, and is but little interfered with by the incidental little currents through apertures, which almost cease to enter. Air in motion, if it be of a temperature below that of the surface of the body, has a cooling effect upon the person. This fact explains the efficacy of the fan in hot weather. Amongst throngs of people the action of the lungs raises the temperature to an inconvenient degree, because the hot circumambient strata of air remain comparatively stagnant. If these were set in motion an agreeable coolness would be felt.

To produce such a result, the dynamic power of the "Atmopyre" would be sufficient. By enlarging the ingress and egress pipes, its efficacy in reducing temperature would be as great, as its power of imparting warmth with narrower channels. The plasticity of form of this kind of apparatus renders it very obedient to the will of the architect. The fire may be concentrated in one part of a room, or distributed over the several sides. The strictest economy would require that the "chimney," "efferent tube," or "way out," for the products of combustion, should be in *alto relievo* within the apartment, in order that the least possible heat should be lost. This would be a kind of æsthetic difficulty, that would replace the prevailing sooty chimney-pot, upon which it is so rare a triumph of art to affix any impress of beauty.

The untiring energy and industry which are now devoted to architectural pursuits forbid our supposing that any new modifications of the contrivances subservient to domestic wants, would form any permanent impediment to the attainment of that symmetry and chasteness of decoration which now characterize our modern mansions. I therefore feel convinced that the new method of procuring heat from the combustion of vapours will prove no obstacle to the creative fancy of the architect, but will rather be found perfectly pliant to his purpose, and an additional means of adding ornament to his designs.

COMPARATIVE TABLE OF FOREIGN CUBICAL MEASURES.

The following table of cubical measures in different countries will be useful to many of our readers, and especially to those connected with foreign gas-works. To use it, take the unit 1, under the column of the country in which the measure you may desire to convert into that of any other country, is quoted, and follow the same line horizontally till you come under the required column, and the corresponding measure is there indicated. Thus, 1 English cubic foot is equal to 1.2167 Hamburg measure, and 1 Hamburg cubic foot to .8298 English measure, or 1 French cubic meter is equal to 35.3166 English cubic feet.

TABLE OF CUBICAL MEASURE IN VARIOUS COUNTRIES.—*Extracted from* Dr. Jul. Schadeberg's "Technisches Hülfs und Handbuch."

Prussia. Cubic foot, 1728 c. inch.	Baden. Cubic foot, 1000 c. inch.	Bavaria. Cubic foot, 1728 c. inch.	Belgium. Cubic mètre or metre.	Brunswick. Cubic foot, 1728 c. inch.	Bremen. Cubic foot, 1728 c. inch.	Denmark. Cubic foot, 1728 c. inch.	England. Cubic foot, 1728 c. inch.	Frankfort-upon-the-Maine. Cubic foot, 1728 c. inch.	France. Cubic mètre.	France. Paris Cubic foot, 1728 c. inch.	Hamburg. Cubic foot, 1728 c. inch.	Hanover. Cubic foot, 1728 c. inch.	Hesse Darmstadt Cubic foot, 1000 c. inch.	Kurhesse. Cubic foot, 1728 c. inch.	Nassau. Cubic foot, 1000 c. inch.	Netherlands. Cubic ell, or metre.	Austria. Cubic foot, 1728 c. inch.	Russia. Cubic foot, 1728 c. inch.	Saxony. Dresden. Cubic foot, 1728 c. inch.	Saxony. Leipzig. Cubic foot, 1728 c. inch.	Sweden. Cubic foot, 1000 c. inch.	Switzerland. Cubic foot, 1000 c. inch.	Würtemberg. Cubic foot, 1000 c. in.
1	1·1446	1·2432	0·0309	1·2783	1	1·0918	1·3408	0·0309	0·9017	1·3155	1·2116	1·9785	1·2982	0·2473	0·0309	0·9785	1·0918	1·3603	1·3709	1·1813	1·1446	1·3147
0·8731	1	1·0847	0·0270	1·1161	0·8731	0·9533	1·1709	0·0270	0·7877	1·1490	1·0845	1·7280	1·1336	0·2160	0·0270	0·8547	0·9533	1·1877	1·1974	1	0·9315	1·1481
0·8042	0·9205	1	0·0248	1·0279	0·8042	0·8778	1·0781	0·0248	0·7251	1·0578	0·9985	1·5911	1·0438	0·1989	0·0248	0·7870	0·8778	1·0937	1·1026	0·9412	0·9205	1·0571
32·3458	37·0356	40·2194	1	41·3325	32·3458	35·3166	43·3731	1	29·1738	42·5558	41·1630	64·0000	41·9563	8·0000	1	31·6593	35·3166	43·9981	44·7310	39·2080	37·0356	42·4265
0·7493	0·8581	0·9359	0·0232	1	0·7493	0·8182	1·0051	0·0232	0·6759	0·9859	0·9306	1·4064	0·9730	0·1854	0·0231	0·7336	0·8182	1·0196	1·0278	0·8853	0·8581	0·9853
0·7822	0·8946	0·9722	0·0243	1·0435	0·7822	0·8541	1·0491	0·0243	0·7045	1·0290	0·9712	1·4475	1·0157	0·1934	0·0243	0·7655	0·8541	1·0640	1·0727	0·9239	0·8946	1·0215
1	1·1446	1·2432	0·0309	1·2783	1	1·0918	1·3408	0·0309	0·9017	1·3155	1·2116	1·9785	1·2982	0·2473	0·0309	0·9785	1·0918	1·3603	1·3709	1·1813	1·1446	1·3147
0·9159	1·0484	1·1381	0·0283	1·1706	0·9159	1	1·2281	0·0283	0·8258	1·2167	1·1369	1·8118	1·1889	0·2264	0·0283	0·8963	1	1·2457	1·2558	1·0816	1·0484	1·2039
0·7456	0·8538	0·9271	0·0230	0·9546	0·7456	0·8140	1	0·0230	0·6725	0·9808	0·9260	1·4753	0·9670	0·1843	0·0230	0·7293	0·8140	1·0141	1·0223	0·8789	0·8538	0·9803
32·3458	37·0356	40·2194	1	43·3325	32·3458	35·3166	43·3731	1	29·1738	42·5558	41·1630	64·0000	41·9563	8·0000	1	31·6593	35·3166	43·9981	44·7310	39·2080	37·0356	42·4265
1·1087	1·2693	1·3783	0·0343	1·4786	1·1087	1·2128	1·4865	0·0343	1	1·3765	2·1933	1·4392	1·4387	0·2741	0·0343	1·0860	1·2128	1·5078	1·5200	1·3097	1·2693	1·4575
0·7585	0·8701	0·9448	0·0235	1·0133	0·7585	0·8298	1·0190	0·0235	0·6854	1	0·9434	1·4034	0·9865	0·1879	0·0235	0·7439	0·8298	1·0336	1·0420	0·8975	0·8701	0·9994
0·8050	0·9220	1·0012	0·0249	1·0744	1·0293	0·8050	0·8792	0·0249	0·7254	1·0560	1	1·5009	1·0173	0·1991	0·0249	0·7799	0·8792	1·0942	1·1042	0·9509	0·9220	1·0587
0·5053	0·5785	0·6283	0·0156	0·6740	0·6358	0·5053	0·5618	0·0156	0·4647	0·6648	0·6274	1	0·6660	0·1250	0·0156	0·4945	0·5518	0·6871	0·6414	0·5969	0·5785	0·6644
0·7703	0·8818	0·9588	0·0238	1·0275	0·9845	0·7703	0·8409	1·0327	0·6948	1·0132	0·9562	1·5355	1	0·1905	0·0238	0·7537	0·8409	1·0745	1·0562	0·9098	0·8818	1·0129
4·0431	4·6287	5·0320	0·1250	5·3933	5·1677	4·0431	4·4142	5·4312	0·1250	3·6467	5·0203	8·0000	5·2488	1	0·1250	3·9568	4·4142	5·4991	5·5913	4·7755	4·6287	5·3154
32·3458	37·0356	40·2194	1	43·1512	32·3458	35·3166	43·3731	1	29·1738	42·5558	41·1630	64·0000	41·9563	8·0000	1	31·6593	35·3166	43·9981	44·7310	39·2080	37·0356	42·4265
1·0214	1·1695	1·2701	0·0316	1·3628	1·3057	1·0214	1·1155	1·3641	0·0316	0·9221	1·3440	2·0214	1·3262	0·2526	0·0316	1	1·1155	1·3896	1·4897	1·1378	1·1695	1·3429
0·9158	1·0484	1·1381	0·0283	1·1706	0·9158	1	1·2281	0·0283	0·8258	1·2167	1·1369	1·8118	1·1889	0·2264	0·0283	0·8963	1	1·2558	1·2456	1·0816	1·0484	1·2039
0·7346	0·8417	0·9148	0·0233	0·9606	0·9394	0·7346	0·8025	0·9856	0·0233	0·6630	0·9696	0·8642	1·4559	0·9542	0·1818	0·0233	0·7195	0·8025	1	0·8682	0·8417	0·9665
0·7292	0·8339	0·9068	0·0225	0·9726	0·9320	0·7292	0·7961	0·9873	0·0225	0·6576	0·9594	0·8997	1·4429	0·9466	0·1803	0·0225	0·7137	0·7961	0·9919	1	0·8613	0·8339	0·9614
0·8439	0·9689	1·0574	0·0282	1·1291	1·0829	0·8439	0·9242	1·1349	0·0282	0·7632	1·1138	1·0499	1·6749	1·0988	0·0282	0·8284	0·9242	1·1513	1·1544	1	0·9689	1·1161
0·8731	1	1·0847	0·0270	1·1649	1·1161	0·8731	0·9533	1·1709	0·0270	0·7877	1·1490	1·0845	1·7280	1·1336	0·0270	0·8547	0·9533	1·1877	1·1974	1·0315	1	1·1481
0·7605	0·8786	0·9456	0·0235	1·0144	0·9720	0·7605	0·8303	1·0199	0·0235	0·6859	1·0007	0·9443	1·5046	0·9871	0·0235	0·7442	0·8303	1·0347	1·0312	0·8983	0·9706	1

ABSTRACT OF RETURN

From every Gas Company established by Act of Parliament in the United Kingdom, stating the Rates per 1000 Cubic Feet at which each Company have supplied Gas in each of the three years since 1846 to 1849, and the Average Price of the Coals used by the Company in the year 1849. (The Amount of Fixed Capital invested by each Gas Company, and the Rate per Cent. of Dividend last paid to the Shareholders on their Shares, will be given in the next Share List.)

Name of Company.	Rates per 1000 Cubic Feet at which the Gas has been supplied in each year.			Price of Coals in 1849.	
ENGLAND.	1847.	1848.	1849.	Per Ton. Coal.	Cannel.
	s. d.	s. d.	s. d.	s. d.	s. d.
Accrington	10 0 to 6 0	8 0 to 4 10	7 0 to 4 0	9 3	14 3
Ashton-under-Lyne	6 0	6 0 & 5 6	5 6	7 6	14 6
	With discount at rates varying from 2¼ per cent. to 30 per cent.				
Barnsley	5 6	5 6	5 6	4 8	
	With discount at rates varying from 2½ per cent. to 22½ per cent.				
Bath	4s. 6d. to 7s., with discount at rates varying from 5 per cent. to 20 per cent.; and 2s. 1½d. for public lamps.			13 0	
Bilston	6 0	6 0 to 4 6	6 0 to 4 6	9 6	
Bingley	7 0	7 0	7 0 & 6 0	8 2½	
Birkenhead	7 6	7 6	7 6		13 0
	Public lamps £4. 2s. 6d. each per annum.				
Birmingham	6 0 to 3 4½	6 0 to 3 4½	6 0 to 3 4½	8 11 Staffds.	
				15 0 Welsh	
Blackburn	6 0 to 4 0	6 0 to 4 0	5 0 to 5 0		11 5
Bolton	6 0 to 4 6	5 6 to 4 6	5 0 to 4 6		10 6
	Street lamps at so much per light.				
Boston	8 0	8 0	7 0	14 0	
Bradford (York)	6 0	5 0	5 0	8 0½	
	Net price after discount—5s. 2½d., 4s. 3½d., 4s. 4½d.				
Brentford	8 0	8 0 to 6 0	8 0 to 6 0	16 0	
Bridgewater	8 4 & 7 6	7 6	7 6	12 0	
Brighton	No return.				
Bristol	6 0	6 0	6 0	8 6	
	With discount at rates varying from 7½ per cent. (or 5s. 6½d.) to 20 per cent. (or 4s. 9½d.); special contracts 4s. 6d.				
Burnley	5 3	5 3	5 3	8 1	
Bury St. Edmunds	10 0	10 0	10 0, subsequently reduced to 8s. 4d.	19 6	
Cambridge	8 0	8 0 to 7 0	7 0 to 6 0	17 2	
	Town lamps £4. 10s. each. The price will be still further reduced at Midsum. 1850 to 5s. 6d.				
Canterbury	No return.				
Carlisle	5 0	5 0	5 0	5 0 Furnace	
				9 8 Retort	
Cheltenham	4 7½	4 8½	4 7½	16 6	
Chesterfield	7 0	7 0	7 0	6 6	
Congleton	7 0	7 0	7 0	8 4	
	and 1s. extra when the consumer does not pay for the meter; with discount at rates varying from 2½ per cent. when the account reaches £10 per annum; to 15 per cent. when it attains £150 per annum.				
Coventry	7 3	6 4½	5 6	15 0	
Croydon	7 0	7 0	7 0	19 0	
Darlington	The Act incorporating this company having only recently come into operation, no particulars can be furnished.				
Derby	6 6	6 6	6 6	9 2	
	Subject to discount at rates varying from 10 per cent. off the first 10,000 cubic feet, to 40 per cent. off all above 60,000 cubic feet.				
Devonport	5 6	5 6	6 0	14 9	
	Her Majesty's dockyard is supplied at 3s. 3d., and the public lights at about 3s. per 1000 cubic feet.				
Dewsbury	7 6 to 6 0	6 8 to 5 4	5 10 to 4 8	8 0	
Dover	7 6	7 6	7 6	16 0	
Dudley	5 0	5 0	5 0	8 0 Common	
				10 0 Best	
Exeter	7 6 red. to 7 0	7s. red. to 6 6		17 0	
Glossop	5 5	5 5	5 5	12 0	
Gloucester	1847—public lights, £2. 6s. 1848 and 1849—private lights, 6s.			15 0 average	
Grimsby, Great	10s. red. to 8 4	8 4	8 4 red. to 7 6	12 4½	
Halifax	1847—6s. with discount from 2½ to 50 per cent. 1848 and 1849—5, with discount from 2½ to 25 per cent.			7 11¼	
Harrogate			8 4	11 3	
Hartlepool	6 8	6 8	6 8	Not stated.	
Hereford	Not stated.			17 0	
Heywood	5 2½	5 8½	5 4		13 5
Holmfirth	7 6	7 6	7 6	9 11	
Ipswich	7 0	6 0	6 0	15 3	
Isle of Thanet	7 6	7 6	7 6	17 6	
Kendal	7 6	7 6	7 6	13 7	
Kidderminster	10 0 to 6 0	9 0 to 6 0	8 0 to 5 6	14 0	
Kingston-upon-Hull	6 8, reduced to 5 6 in April, 1849			11 6	
Leamington Priors	9 0 to 7 8	6 9 to 6 0	6 9 to 6 0	16 0	

Name of Company.	Rates per 1000 Cubic Feet at which the Gas has been supplied in each Year.			Price of Coals in 1849.	
	1847.	1848.	1849.	Per Ton. Coal.	Cannel.
	s. d.	s. d.	s. d.	s. d.	s. d.
Leeds (Gas Light Company)	6 0	5 0	5 0	9 1	
	1847—Reduced to 5s. on June 15. 1848 and 1849—With discount at rates varying from 2½ per cent. when the half-yearly account amounts to £5; to 25 per cent. when such account is upwards of £135.				
Leeds (New Gas Company)	6 0	5 0	5 0	7 6	
	1847—Subsequently reduced to 5s. 1848 and 1849—Subject to discount of 2½ per cent. on half-yearly payments of from £5 to £15, and an additional 2½ per cent. on every additional £15 up to 25 per cent.				
Leicester	5 6½ to 4 8	5 6½ to 4 8	5 6½ to 4 8	11 0	
Lincoln	7 6	7 6	7 6 to 5 0	12 0 average.	
Liverpool:—					
The late Liverpool Gas Light Company	4 6	4 6			
The late Liverpool New Gas and Coke Company, formerly the Liverpool Oil Gas Light Company	4 6	4 6			
The Liverpool United Gas Light Company			4 6		14 6
London:—					
British	6 0	6 0	6 0	15 3	
Chartered	7 0 & 6 0	6 0	6 0 & 5 0	15 4	
	1849—From Christmas 1849 the company have agreed to supply gas in the City of London at 4s., and elsewhere from Lady-day next at 5s. per 1000 cubic feet.				
City of London	7 0	6 0	5 0	15 9	
	1848—From Lady-day. 1849—From Midsummer; reduced to 4s. at Christmas.				
Commercial	6 0	6 0	6 0	15 6	
	Public lights at a lower rate.				
Equitable	7 0	7 0 & 6 0	6 0	13 11	
Imperial	7 0	7 0 & 6 0	6 0	15 0	
Independent	6 0	6 0	6 0	16 0	
London	8 0 & 7 0	7 0 & 6 0	6 0	15 3	
Phœnix	8 0	7 0 & 6 0	6 0	14 5	
Poplar	6 0	6 0	6 0	17 6 average	
Ratcliff	7 0	7 0	6 0	15 6	
South Metropolitan	8 0	7 0 & 6 0	6 0	16 6	
United General Gas Co. (Hibernian)	7 6 & 5 10	5 10	5 10	20 5	
Western			8 0		21 0
Louth	8 0	8 0	8 6	9 7½	
	1847 and 1848—Public lamps, £2. 15s. each. 1849—Public lamps, £2. 7s. 6d. each.				
Macclesfield	6 0 to 4 4	6 0 to 4 4	5 6 to 4 3	10 7	
Manchester	5 6	4 9	4 9		15 6
Mansfield	6 8	6 1	5 10	9 3	
Margate, Ramsgate, and Broadstairs,	See Isle of Thanet.				
Middleton	6 6	6 2	5 6		11 9
Newark	8 4 and 7 6	8 4 and 7 6	7 6 & 5 10	13 6	
	1847 and 1848—When finding their own meter, and 10s. when using the company's meter. 1849—When finding their own meter, and 1s. extra when using the company's meter.				
Newcastle and Gateshead	4 0 to 3 7	4 0 to 3 7	4 0 to 3 0	5 6	
	Public lamps at the rate of about 1s. 1d.				
Newcastle-under-Lyme	6 8	6 8	6 8	11 4	
	The greater portion of the consumers are by contract.				
New Mills and Hayfield	No return.				
Newport (Isle of Wight)	No return.				
Newport (Monmouth)	7 1	7 1	7 1	8 3 average	
	Public lights, 3s. 3d. in each year.				
Northampton	No return.				
Norwich	6 8 & 5 10	5 10	5 10	17 4	
Nottingham		5 5 to 4 2	5 0 to 3 9	8 0	
Oldham	No return.				
Over Darwen	No return.				
Oxford	8 4	8 4	8 4	22 4	
Plymouth and Stonehouse	6s. to private consumers, 3s. 6½d. to the Victualling-yard, Naval Hospital, and Marine Barracks. Public lights £2. 14s. per light per annum, estimated at 2s. per 1000 cubic feet.			15 6	

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Name of Company.	Rates per 1000 Cubic Feet at which the Gas has been supplied in each Year.			Price of Coals in 1849.	
				Per Ton.	
	1847.	1848.	1849.	Coal.	Cannel.
	s. d.	s. d.	s. d.	s. d.	s. d.
Portsea	7 0	6 6	6 6	16 0	
Preston	6 0 to 5 0	6 0 to 5	5 3 to 4 4½		15 0
Pudsey	6 8	6 8	6 8	7 5	
Radcliffe and Pilkington	No return.				
Reading	No return.				
Rochdale	6 0	6 0	6 0	7 3	14 3
	Subject to discount at rates varying from 5 per cent. when the annual consumption amounts to £30; to 25 per cent. when such consumption amounts to £200.				
Rochester, Chatham, and Strood	7 0	6 0	6 0	13 6	
	(Reduced to 5s. 6d. in 1850.)				
Rotherham	6 8 to 5 4	6 0 to 5 2	5 10 to 5 0	7 6	
Runcorn	7 6 to consumers of less than 100,000 cubic feet, and 6s. 4½d. to consumers above that amount.				15 3
St. Helen's	8 0	8 0	6 8		12 6
Salford	6 0 5 6, and 5 0 in 1847-48-49. Reduced in June 1849, to 5s, 4s. 9d., and 4s. 6d.				12 0
Sheffield	5 10 to 4 9½ in each year			8 9	
Shipley	8 0	8 0	6 8	8 1	average
Shrewsbury	7 1	7 1	6 8 to 6 3	13 1	
Southampton	1849, 6 0; public lambs about 3 2			16 6	„
Stafford	8 6 to 6 6	8 6 to 6 6	7 6 to 5 6	12 9	„
Stalybridge	6 0	6 0 to 5 6	5 6		15 0
	Subject to discount at rates varying from 2½ per cent. when the annual account amounts to £20; to 30 per cent. when the annual account amounts to £500.				
Stamford	10 0	10 0	8 0	18 0	
	Public lamps at the rate of 6s.				
Stockport	5 3	4 9	4 9		14 6
Stockton	7 6	6 8	5 10	5 9	
Sunderland	No return.				
Taunton	7 0	7 0	7 0	12 6	
	Subject to a discount of 5 per cent. when the consumption exceeds £25 per annum, and 2½ per cent. when from £15 to £25 per annum.				
Wakefield	5 0	4 6	4 0	5 4	
Warrington	8 4	8 4	8 4	8 11	
	Subject to discount at rates varying from 19 per cent. (or 6s. 9d. per 1000 cubic feet) when the consumption is under 12,000 feet; to 46 per cent. (or 4s. 6d. per 1000 cubic feet) when the consumption amounts to 500,000 cubic feet and upwards.				
Warwick	10 0 and 9 0	9 0 and 8 0	8 0	20 0	
Wells (Somerset)	8 0	8 0	8 0	10 0	
	Public lights at £4 each per annum, or 4 3 per 1000 cubic feet.				
Wigan	Shops 6s., mills 5s.				9 4½
Wolverhampton	5 0 and 4 6	5 0 and 4 6		11 0	average
Worcester	6 0	6 0	6 0	13 0	„
York	6 8	6 8	5 6 to 4 6	7 5	
WALES.					
Cardiff	8 0 & 7 0	7 0	6 6 & 6 0	ditto	8 6
	Reduced in June 1847, to 7s., 6s. 6d. and 6s.				
Llanelly	7 9	7 9	7 9	7 10	
Swansea	No return.				
SCOTLAND.					
Dundee Gas Light Company	5 5	5 5	5 5		18 6
Dundee New Gas Light Company	6 0	6 0	6 0		18 6
	Subject to discounts varying from 2½ to 20 per cent. according to the consumption.				
Edinburgh Gas Light Company	6 6	6 6	6 6		17 10¾
Edinburgh and Leith Gas Light Company	6 6	6 6	6 6		18 6
Glasgow Gas Light Company	5 0	5 0	5 0		14 11
Glasgow City and Suburban Gas Company	5 0	5 0	5 0		14 11
Hamilton	From Sept. 3, 1847, to Dec. 1848, 6s. 6d.; since Dec. 1848, 5s.				12 8
Inverness (Gas and Water)	10 0	10 0	10 0		and 12 5 24 4
Paisley	6 0	6 0	6 0		12 9½
	Less discount, 5s. 9½d.				
IRELAND.					
Belfast *	* The Belfast Gas Works are carried on by an English company, meeting monthly in Leicester.				
Cork	(See United Gen. Gas Company.)				
Downpatrick	10 0	10 0	10 0	12 0	
Dublin:—					
Alliance and Dublin Consumers	7 6, 6 8, and 5 10	5 10	5 10	16 3	
Hibernian	(See United Gen. Gas Company.)				

REVIVAL OF THE COAL MONOPOLY.

We thought the coal owners of Northumberland and Durham had bought too much wisdom by a very dear experience, to entertain the idea of resuscitating their old system of a restricted "*vend*," for the purpose of maintaining a price for coal above that which the ordinary law of supply and demand affords. With some slight interruptions this system existed from 1771 until three or four years ago, when at length its mischievous effects upon the interests of the coal owners induced them to abandon it in despair: and nothing has astonished us so much for a long time as to hear that it is determined to attempt its revival. For some considerable period after the abandonment of the system, a severe competition and considerable distress would necessarily prevail, especially among the owners of second-rate collieries. They had at last by their false system got into the position, that to go on with the system or to stop, was but a choice of evils; with only this difference, that to go on was only to aggravate the evils which sooner or later it was plain they must face in abandoning a system so false and artificial; while to stop at once was to face the evil in a less serious form than they would be obliged to do at a later period.

The force of these observations will be at once understood when we refer to the system which was adopted under the former restriction of the "vend." The capacity of every colliery was estimated; the quantity to be sold for home use during each month was determined at the beginning of the month; and it was made less or more as the prices in London showed a tendency to rise or fall. The aggregate quantity being determined, it was then apportioned to each colliery in proportion to its registered capacity of production. The price being kept artificially high was an encouragement to open new pits and to extend old ones, so that the share allotted to each was continually diminishing. No matter how good or how bad the coal—no matter how cheaply it could be worked, or how much it cost, the same proportion was allotted to all alike. The system was analagous to the plans of Louis Blanc and his friend M. Froscatt, for dividing equally among all labourers the work to be performed, altogether irrespective of their individual merits. But the great evil which inevitably flowed from this system was, that, in order to obtain larger shares of the quantity to be "*vended*," the productive powers of the collieries were increased at great cost, by sinking additional pits, by erecting greater engine power, by building more cottages, and engaging a more extensive royalty, all at a time when the power which they already had was not all used; and by this means the quantity of coal allotted to each colliery annually diminished in proportion to its power, and was therefore raised at an annually increasing cost.

We have lying before us, a list of the annual vends from 1831 to 1843. During that period the quantity allotted to each colliery, in proportion to its power of production, rapidly diminished. In 1831 the quantity permitted to be vended for every 1000 chaldrons capacity of production was 910 chaldrons. One-ninth, then, of the productive power, so far as the home trade was concerned, was thus lost; and the cost of raising the smaller quantity was greater in proportion. But let us see how rapidly that portion diminished! The annual proportions were as follows:—

Newcastle Coal Vend.

	chs.		chs.
1831 For every 1000 chaldrons capacity of production	910	1838 For every 1000 chaldrons capacity of production	695
1832	730	1839	642
1833 open		1840	555
1834 partly open	640	1841	573
1835	768	1842	501
1836	765	1843	414
1837	770		

So that at last in 1843, a colliery, with all the capability and the sunk capital for the production of 50,000 tons a-year, was restricted to the sale of 20,700 tons; the cost of which, so far as many of the important items of expenditure go, was as great as it would have been in raising the whole 50,000 tons. And as every year increased still more the aggregate productive power, it was obvious, that to go on in the same course would be very soon to exhaust the entire price in the cost of production; while to stop and leave all free to sell what they could, would be to bring an intense competition into the trade (the productive power being double the existing demand), under which inferior collieries must be shut up, and only the best worked to any advantage. It was a hard choice, from which there was no escape without great and certain loss. The mischievous system had been entered upon, and persevered in as long as it could, and the day of reckoning had arrived.

For the last three or four years the trade has been open. A few of the largest and best collieries have driven a thriving and lucrative trade; they have worked their capabilities to the utmost: but the great bulk of the concerns have been unprofitable; and the largest have begun to discover that they are working their coal out somewhat quicker than is desirable. All parties, it seems, then, disregarding the experience of the past, have determined to try once more if they cannot extract the same sum of money for a smaller quantity of coal. A new combination for this purpose, we are told, had been formed. The following is from a morning paper:—

"The Coal Trade.—A general meeting of the coal trade was held at Newcastle last week, when a report was read of considerable interest to the metropolis. It states that the present prices of coals in the London market are upwards of 2s. per ton less than at the corresponding period of

last year, a circumstance mentioned to show that without the concurrence of all parties concerned in the trade, no scheme for the maintenance of of prices generally remunerative could prove successful. The report then intimates that the preliminary step had been taken of ascertaining the practicability of such a concurrence or arrangement with the whole of the first-class collieries. It then goes on to say, 'It appears impracticable to work a regulation efficiently without an apportionment of quantity to each colliery, experience having sufficiently shown that, in an arrangement of prices only, there arises a competition for quantity which precludes those prices being realized. But while the quantity of each colliery is proposed to be fixed, it is intended to supersede the old plan of issues, and to estimate beforehand the several quantities to be vended in each month of the year. In fixing the respective monthly quantities for household coals, recourse has been had to the experience of the past, and to the opinions o the coal factors as officially communicated to the trade. Prices being the main object of a regulation, it is proposed immediately to make an advance of 2s. per chaldron. The arrangement is to include all descriptions of coal, as well for gas, coke, manufacturing, and steam, and for household purposes; but the owners of gas, coking, and manufacturing, and steam collieries, are to fix, by consultation amongst themselves, the distribution of their monthly quantities, inasmuch as the demand for such coals is governed by a difference of circumstances, which prevents their being ranked in this respect along with household coals.' A series of rules and regulations are then submitted, by which the following collieries are to have a vend of 495,000 chaldrons yearly, to be divided amongst them:—Lord Londonderry, Lord Durham, Hetton, South Hetton, Haswell; and the vend of household coal is to be distributed over the several months in the year in the following manner:—

	per cent.		per cent.
January	.. 6	August	.. 10
February	.. 7	September	.. 10
March	.. 8	October	.. 10
April	.. 8	November	.. 9
May	.. 8	December	.. 8
June	.. 8		—
July	.. 8		100

The gas, coking, and manufacturing, and the steam collieries, are to arrange their respective monthly vends. There are several other regulations, but they are of a minor character, except one, which requires that no overweight be allowed in the sale of coals, and no allowance made to captains, except as agreed upon; and another, that all the collieries make monthly returns of the coals vended to the London market. An inspector is to be appointed to ascertain that overweight is not given. This stringent report was adopted, and from the 18th inst. the price of coals was advanced 2s. per chaldron."

These gentlemen surely cannot be so foolish as to expect that a variation from "monthly issues" to "yearly issues," can prevent or even modify the mischievous consequences resulting from their former system.

We cannot say that we view this preposterous movement with any uneasiness. For the consumer we have no anxiety. If he should suffer a little for a few weeks, it is cerain that he will soon be far more than compensated by a greater reduction than the rise to which he must now submit, owing to greater competition, which from other quarters this combination will bring into the field. Important as are the Tyne and the Wear, they are not the only coal districts in England. A look at a good geological map should be enough to alarm these gentlemen, if they had any forethought or power of reasoning. But if men will run their heads against a wall with their eyes open, they must do so. They will find as little respect for their judgment as sympathy for the motives which actuate them. They have undertaken an impossible task from which they will be the only losers.

We lately alluded to an extensive contract to convey coal to London on the North Western Railway at one halfpenny per ton per mile. At that rate it will be brought into London, all expenses included, a distance of 200 miles, for 8s. 4d. a ton. Again, we learn that Mr. Beckett Dennison has made arrangements for a supply from the neighbourhood of Sheffield, which will be of itself sufficient almost to employ the Great Northern Railway. If we think that the coal owners will ultimately be the parties most injured by this movement, the speculators on the North Western and the proprietors of the Great Northern Railways are those who are most likely to be benefited. We thought the men of the north had harder heads than to fall into such a short sighted and miserable blunder. They may as well attempt to stop the tide at the mouth of the Tyne, as to prevent the price of coal finding the natural level which supply and demand and the cost of production determine. These are elements which they may disturb to their own disadvantage, but they may rest assured their regulation and control are far beyond their power.

Correspondence.

ON RESIN AND WATER GAS.

Sir,—I am glad to find that the observations on water and resin gas, inserted in the number of the Journal for July last, have been the means of drawing the attention of others to the subject; at the same time I have to express my regret that the remarks made by Mr. Hodgetts, in reply to these observations, are of such a nature as to throw little light upon it.

Mr. White has stated that 1 cwt. of resin yields, by his system, 2800 feet of gas, or more, of specific gravity 924, and possessing an illuminating power 26·5 per cent. superior to Manchester cannel coal gas. Mr. Hodgetts asserts that he *believes* the average specific gravity of Mr. White's gas slightly exceeds 700, and that 1 cwt. of resin, together with the water decomposed, affords from 2500 to 2800 feet of gas, slightly exceeding the Manchester gas in illuminating power, thus at once making a deduction of about a fourth part of the value of the gas.

Again, Mr. Hodgetts states that from 1 cwt. of resin, together with the water decomposed, there are produced from 1500 to 1800 feet of gas, along with 4 gallons of resin oil, and ⅜rds of a gallon of naphtha—or, using all the oil over again, from 2500 to 2800 feet of gas. Evidently, then, the decomposition of 4 gallons of resin oil, that is 36 lbs., affords 1000 feet of gas; but 1000 feet of gas of specific gravity 700, weigh upwards of 53 lbs.

I would ask, what confidence can be placed in statements so very discordant. Mr. White making the specific gravity 924, Mr. Hodgetts, 700; the former giving the quantity 2800 feet of illuminating power 26½ per cent. superior to, the latter the same quantity, but the illuminating power slightly exceeding the Manchester gas; or, which comes to nearly the same thing, the former giving the quantity from 3530 to 4000, the latter from 2500 to 2800; the illuminating power being the same in both. Mr. Hodgetts also states that, as to fat, &c., "it has not been heard of south of the Tweed," yet fat, &c., are articles included along with resin and water in Mr. White's patent.

There are other circumstances to which I might allude, but it is not my intention to trespass further on the pages of your Journal at present. I have the prospect of being permitted, through the kindness of Mr. White, to test the value of his improved process. When I have done this, I shall give the results to the public. If I then find that I have underrated the value of his gas, I will at once acknowledge my error, and award to Mr. White the credit to which he will be deservedly entitled. Till then, notwithstanding what has been written, I shall continue to hold the opinion I have expressed in your Journal for July. Andrew Fyfe, M.D.

King's College University, Aberdeen, September 13, 1850.

NEW SYSTEMS OF LIGHTING.

Sir,—There are no less than five new modes of producing artificial light now exhibiting in Manchester. First, Mr. Staite's electric light. This gentleman, after giving a lecture at the Town-hall on the 3rd of August, replied to three questions—first, that the cost was trivial; secondly, that he could, with his *present apparatus*, keep up for twelve hours a self-sustaining light, requiring no extraneous aid; and thirdly, that he could with a single battery produce and sustain several lights. On being requested to substantiate these assertions, at his Mechanics' Institution lecture, to be given on August the 10th, by simply allowing one apparatus, producing at the least two lights, to remain on the table untouched during the hour or two of the lecture, he declined, saying that he had placed the whole affair in the hands of a highly-respectable committee. This committee has now sat six weeks without presenting any report, and the *Manchester Guardian*, of Sept. 21st, intimates that it will hardly be able to do so before the end of October. For this report, then, we must wait before any decision can be arrived at on the merits of the invention.

The second is Messrs. Hall and Wilson's gas apparatus, consisting of a sheet-iron retort or scoop, charged with cannel coal, saw-dust, and coal tar, being placed, the open end entering first, within a common cast-iron retort, leaving half an inch of space between the two for the generated gas to return the whole length of the retort to the ordinary ascending-pipe. The alleged advantages are, the facility of charging and discharging, by wheeling the interior retort to and fro on a sort of truck, and a considerably increased production of better gas. The obvious disadvantages are, loss of illuminating power by passing olefiant gas along a great extent of heated surface, and, as the outer retort must of course be hotter than our ordinary coal retorts, it appears certain that both must soon be twisted too much to allow of the free passage of the one within the other, where only half an inch play is allowed.

The third is Mr. Skelton's extremely beautiful oil-gas arrangement. A small retort is placed within a cast-iron stove, very much like a gas cooking stove; the coke is inserted at top, after the removal of a round lid; the oil flows slowly from a box placed above through a narrow pipe into the retort, and the generated gas, after passing through a very minute washer, enters at once into a gas-holder, holding perhaps 300 feet, without further purification. The want of proper condensation produces a frequent choking up of the mains, but the gas itself, as seen in a handsome argand in the gas-house, and in the burners of the drawing-room chandeliers, is extremely brilliant. The very small quantity of gas that can be thus obtained from so costly an article as oil must prevent the use of this apparatus, excepting perhaps in the country houses of the nobility, where brilliant illumination, regardless of cost, is desired. The patentee is as yet unable to give any information either as to the quantity produced from each gallon of oil, the kind of oil best suited to the purpose, or an approximation to the probable cost.

I now come to the fourth, being Mr. Gillard's hydro-carbon gas, which is made to produce a soft pleasing light, attended with intense heat, by passing through an argand burner, surmounted by a sort of cage, made of fine platinum wire, reaching a little higher than the top of the flame. The moment the gas is lighted, the platinum becomes brilliantly incandescent, and bears the appearance of a globe of white light. If the light be extinguished, and the cage suffered to cool, or even be replaced by a fresh one, and if the gas is turned on within five minutes, or before the end of the

pipe and the contained gas is cold, it will burst forth into spontaneous flame, the moment it comes in contact with the platinum, thus proving the extreme purity of that substance. This is a most beautiful philosophical invention, and an elegant light, but whether it can ever be of practical benefit, for purposes of general illumination, must depend upon the two dry questions of cost and of illuminating power. The apparatus consists—first, of a steam-boiler; and secondly, of an ordinary 12-inch gas retort, 5 feet long, each of course requiring a separate fireplace and fuel. The retort bottom is covered with charcoal, a few inches above which passes a ¾-inch steam-pipe, the bottom of which is perforated with several rows of very fine holes. The charcoal being intensely heated, and the steam turned on, the latter is decomposed, forming carbonic acid and hydrogen. Of carbonic oxide we will say nothing, as the patent is for the production of hydrogen; and in all the patentee's own statements he affirms that by means of this apparatus he does succeed in resolving water and charcoal into carbonic acid and *pure* hydrogen. Thus, then, he obtains from every two proportions of water, and one proportion of carbon, two volumes of hydrogen, and one volume of carbonic acid; and for every two parts by weight of hydrogen he has to pass into the purifiers 22 parts of carbonic acid, requiring 28 parts of pure lime to arrest their progress. Thus, for the production of this gas, two fires must be kept up, and one-third of the whole by volume, being eleven-twelfths by weight, being noxious, must be neutralized by more than its own weight of lime. It can, therefore, be by no means an inexpensive operation, as there is no coke, or other saleable residuum. I have had no means of verifying the production myself; but Mr. Wilson, the intelligent manager of Mr. Kurtz's works, assures me that he *can* obtain 400 feet of gas in an hour from 7½lb. of charcoal. After leaving the retorts, the gas passes through the ordinary condensers and dry lime purifiers into the holder. We now come to the all-important question, namely, its power of illumination, as compared with coal or cannel gas. In the centre of a drawing-room, 30 feet long by 12 wide, hangs a chandelier with three argand burners, and at one end of the room is a branch with two others, each burner consuming 6½ feet to the hour. The apartment is by no means well lighted, and the general effect, as well as the difficulty of reading small print, confirmed my previous impression (which was now shared in by the gentleman who accompanied me), that each burner gave less light than an ordinary Manchester flat flame, consuming but half the quantity of gas. Not thinking it fair to report this mere opinion to you, I last night again visited the works, and, most kindly assisted by Mr. Wilson, the manager, compared the shadow of the gas, passing through the meter at the rate of 6$\frac{5}{10}$ feet per hour, with that of a composite candle, six to the pound. This was difficult to do with correctness, as the shadows differ so extremely in colour that it is impossible to fix a precise point of similitude. Our results varied from a distance of 2 feet 9 inches to 3 feet, the gas light remaining 6 feet 6 inches from the object. Taking the mean of these observations as 34½ inches against 78 inches, and squaring those figures, we shall find that a Gillard light, consuming 6½ feet per hour, as indicated by one of West's meters, is equivalent to the light of 5½ composite candles, or pretty exactly to that of the ordinary flat flame of Manchester or Salford cannel gas consuming 3 feet per hour. Thus, then, the volume of this gas being double that of cannel gas, of course the gasholders and street mains will be required to be of twice the present capacity; and it remains to be shown that the cost of an article requiring one-third of the quantity produced, to be removed in lime purifiers, can be so small as to compensate the outlay required to double the gasholders and mains.

The fifth light is Mr. White's hydro-carbon; but as that has latterly occupied so much of your space, I will omit further notice of it until the experiment on the decomposition of tar in combination with water gas, now trying in the Manchester Gas Works, is terminated, and until I obtain, as promised, an accurate account of the workings and cost of the resin gas, and the copy of a contract made for the sale of the Southport residual naphtha.

Manchester, October 1, 1850. J. W. Hodgetts.

CLAY AND IRON RETORTS.

Sir,—The letters of "Experimentum Crucis" on the above subject being, I presume, brought to a close, the observations which I now make will not be deemed out of place, as I promised to reply to any criticisms of which my letters were the object.

Judging from the spirit of antagonism in which your correspondent writes, one would at first sight suppose, that his opinions and mine were diametrically opposed to each other; but a little calm comparison of the facts and arguments he adduces will show that this is more in appearance than in reality, and that we very nearly agree, excepting upon one of the three points into which I have divided the subject; and even upon the bearing of that point on the comparative economy of clay and iron retorts, we are not likely to differ so much, as we are on the question, as to whether gas can be obtained from Wigan cannel of the same quality when 11,210 feet per ton are taken from it, as when the quantity is limited to 9600.

In my first letter I estimated the difference in the cost of maintaining clay and iron at 1d.115 per thousand feet. In his experience it would appear to be—

1846 and 1847, with iron retorts, 2d.646 per 1000 feet.
1848 and 1849, with clay retorts, 1d.216 do.

The difference being 1d.424 do.

He makes it rather less than 1½d., and I rather more than 1d. per 1000 feet in favour of clay retorts. These statements, on a point so difficult of estimation, approximate so closely as to render useless any further controversy as to which of the two is correct.

Upon the question of fuel, he admits that clay retorts require more per ton of coal distilled, but less per thousand feet of gas made. This implies that more gas can be made from clay than from iron retorts; a statement with which I shall deal presently. Waiving it, however, for the present, the case will stand thus:—

I have estimated the coke used for fuel in large works, where the greatest economy is practised, at one-fifth of the total quantity produced, where iron retorts are used, against one quarter, where clay ones are used: in small works, at one half for each. He states it to be more per ton of coals for clay retorts at his works, a statement quite reconcileable with mine. I will, therefore, pass at once to the discussion of the only really disputed point, and this is "*the quantity of gas yielded from a ton of coals from each.*"

Your correspondent has supported his opinions by a piece of sophistry, which is so palpable, that it cannot fail to have been observed by your readers generally. At his works, he asserts 11,210 feet per ton are made in clay retorts from Wigan cannel. At the Liverpool works, as appeared in evidence, 9600 feet were made from iron retorts, the same coal being used in both cases; and hence we are called upon to infer that clay retorts are superior to the extent of this difference of quantity.

Now, your correspondent writes from Lancashire; and he must know that, at the Liverpool Gas Works, the quantity produced is intentionally confined within limits, for the purpose of insuring good gas. *This may be a mistaken idea;* but, right or wrong, this is the reason why the quantity of gas yielded per ton is so small.

He must also be aware that at Salford and Manchester the same coal is known to yield, in iron retorts, from 11,500 to 12,000 feet per ton. We have, therefore, only to adopt his own mode of reasoning to show the absurdity of his own conclusions. At Manchester, 12,000 feet per ton are made from Wigan cannel in iron retorts. At ——— Lancashire, 11,210 are produced from clay ones; and hence, according to his reasoning, iron are superior to clay.

It has been a favourite idea with some gas manufacturers for many years, that the quantity of gas can be increased without deteriorating its quality; that, in fact, it only requires a sufficient heat to send off the greater part of the volatile products as permanent gases. A prospectus issued in 1833 by one of the young Hotspurs of that day, has lately fallen under my notice, in which it is gravely stated that from 12,124 to 13,300 feet of gas of the specific gravity of .550!! were then regularly made at Lymington and Salisbury from a ton of Newcastle coal, distilled in iron retorts at high heats, and in four hours' charges. More recent practice has shown, that this system cannot be carried beyond certain limits. I, at least, have not yet been able to find any instance where more than 10,000 feet are taken from Wigan cannel without the *quality being deteriorated to an extent equivalent to the increase in bulk.* Where savings, therefore, are effected by such means, it is merely laying a tax, although an insidious one, upon the gas consumers, by moving their meters faster, and swelling their accounts for the same amount of light. There is no true economy in it, for that which is saved by the company is lost by the consumer.

The saving of £1120, which your correspondent claims to have effected at his works, is evidently derived from this source. His iron retorts produced from coal and cannel, in 1846-7, 9380 feet of gas per ton; with clay he now produces 11,200. The same thing could have been done under different management with iron retorts. Indeed, *the same thing is done at neighbouring establishments;* and, therefore, this saving has nothing to do with the question at issue.

Your correspondent must have been at a loss for some means of discrediting my mode of testing the gas from the same coal, produced in clay and iron retorts, when he objected to the specific gravity test. Why, surely, iron has no greater tendency to make carbonic oxide than clay from the same coal; and had I resorted to the number of volumes of oxygen taken to saturate one volume of the gas, which test he seems to favour, it would have been quite as objectionable; for the carbonic oxide requires half its volume of oxygen for saturation, while it gives out no light; but neither of these two tests can be fairly called in question under the circumstances.

In looking over his letters I find nothing else to reply to; but I have to thank him for the many strong confirmations of my views as to the two first parts of the subject, while I hope he will agree with me that his objection to the last is really a matter of quantity of gas per ton, irrespective of retorts altogether.

London, August 5, 1850. Aluminium Ferrum.

Miscellaneous News.

GREAT CENTRAL GAS CONSUMERS' COMPANY.

At the extraordinary general meeting of this company held on the 4th ult., a report of which appeared in last month's Journal, a committee of shareholders was appointed at the request of the directors "to co-operate with the board in promoting the general interests of the company amongst their brother consumers." This committee has made its report, and it has been communicated to the defaulting shareholders enclosed in the following circular:—

Great Central Gas Consumers' Company,
48, Moorgate-street, 25th Sept. 1850.

Sir,—"I am desired by the directors of this company to request your careful perusal of the accompanying report of the joint committee of shareholders and gas consumers.

"The directors are unwilling to act with any apparent degree of harshness in carrying into effect the recommendation of the committee, by enforcing immediate payment of the calls in arrear, but they think they are bound in justice to the contractors, as well as the shareholders who have paid up their calls, to enforce the immediate payment of all arrears, in order that they may be in funds to meet payments to the contractors which will become due in a few days.

"For the protection of shareholders against all personal liability beyond the amount of their shares, it has been made a fundamental condition of the incorporation deed, that the directors shall be legally incapacitated from borrowing money, or from pledging in any manner the personal credit of the individual shareholders in the company. Annexed to this letter you will find a copy of the 97th clause of their deed. Sir John Jervis, the present Chief Justice of the Common Pleas; Mr. M. D. Hill, Queen's Counsel; Mr. E. James, Queen's Counsel; Mr. Lush, and Mr. James Wilde (as well as Mr. Sergeant Byles in another case), have all given it as the result of their deliberate judgment, that this clause in the deed, combined with the full registration of the company, has constituted it a corporation, to sue and be sued in its corporate name, and that the shareholders who have paid up to the full amount of their shares, are legally exempted from all other obligations.

"The contractors have executed the works of the company subject to this condition; and the directors feel that the honour of the company and of every individual member is, under these circumstances, pledged scrupulously to fulfil the engagements into which, in their name, the directors have entered. They therefore trust that within the present week they shall find the arrears on your shares paid to their account with Messrs. Currie and Co., bankers, Cornhill.

"I am, sir, your obedient servant,
(Signed) "R. M. Massey, Secretary."

N.B. Copy of the 97th clause of the company's deed.

"97th. That it shall not be lawful for the company, or the board of directors in its behalf, to borrow any sum or sums of money, except under the clauses and provisions hereinbefore in that behalf contained; and it shall not be lawful for the board of directors, in conducting the affairs of the company, to make or issue any promissory notes, or to accept any bills of exchange; and that in all contracts or agreements, whether in writing or otherwise, which shall be made or entered into, and in all orders which shall be given on behalf of the company, for the supply of goods or for the performance of any work or services, or on any other account, the directors shall, by express stipulation with the person or persons with whom such contracts or agreements shall be entered into, or to whom such orders shall be given, provide that the assets and property of the company shall be alone and exclusively liable for the performance and discharge of the same on the part of the company, and that the shareholders in their individual capacities shall not be subject to any liability in respect thereof; and in case any director or directors shall enter into such contract or agreement, or give any such order without making such express stipulation as aforesaid, the director or directors who shall enter or give the same, shall, if required by any writing, signed by any twenty or more shareholders, holding together not less than 500 shares, forfeit his or their office or offices, and immediately upon the signature of such requisition, cease to be a director or directors; and such director or directors, his or their heirs, executors, or administrators, shall take upon himself or themselves the contract, agreement, or order so entered into and given."

"Report of the Joint Committee of Shareholders and Gas Consumers of the city of London, appointed (at the request of the directors) by the extraordinary general meeting of the Great Central Gas Consumers' Company, held at the London Tavern, on the 4th day of September instant, to commmnicate and co-operate with the directors of the company, until the next general meeting, and to report upon the state of the company to the shareholders and consumers of gas.

"Fellow-citizens,—We have had unreserved access to the books of the company, and have received all the information which we required from its officers. The following are the results of our investigation, and our opinions as to the course to be taken for the purpose of upholding and protecting the united interests of the gas consumers of the city and the shareholders of the company.

"1st. As to the share list—

	Shares.	Amount.
"The present capital of the company consists of £10 shares	15,000	£150,000
Of which 666 shareholders who have executed the incorporation deed, have subscribed for	12,680 =	£126,800
81 shareholders have signed the Parliamentary contract, but not the incorporation deed	1,117 =	11,170
Shares appropriated to contractors for works and meters, but not issued	1,203 =	12,030
Shares	15,000 =	£150,000

"2nd. As to receipts and expenditure—

"An account was laid before us by the chief clerk of the company by the desire of the directors, but we thought it more satisfactory to request the eminent accountants, Messrs. Quilter and Ball, to extract from the books an account of receipts and expenditure after their own form: this account was laid before us; it corresponded within a few pounds in amount with that which had been prepared to us by the chief clerk. We annex a copy of the account, from which the following is the result:—

Received.	Paid.	Balance of cash in hand.
£109,319. 4s. 11d.	£99,304. 0s. 4d.	£10,014. 13s. 7d.

"3rd. As to the works—

"A portion of the committee made a visit of inspection to the works at Bow-common. We were forcibly struck with their magnitude, and apparent excellence of construction and adaptation for the supply of gas upon a large scale; but, as the committee have personally but a slight knowledge of such matters, we requested the directors would lay before us a report from the engineer, upon which the committee might rely; as, having regard to the extent of the buildings, and the magnitude of the operation of pipe-laying, which had been carried on in the City and Whitechapel in respect of these works during the last three months, we were anxious to ascertain whether the £150,000. capital would be sufficient to meet the demands on the company. We have received this document, of which we annex a copy.

"4th. As to assets and liabilities—

Having read Mr. Croll's report, we called upon the chief clerk for an assumed estimate of the company's liabilities and assets. A copy of this document is likewise annexed, from which it appears that when the calls are paid up upon the whole 15,000 shares, there will be an estimated surplus for working capital of £15,809. 13s. 7d.

The Committee possess but a very limited knowledge of such matters; but it appears to them that this sum if all realized, will scarcely allow a sufficient margin to conduct the operations of the company upon a large scale, and that it may be necessary to issue a few of the 10,000 reserved shares, or to exercise, to a limited extent, the borrowing powers conferred upon the directors, at the last meeting of shareholders, under an express provision in the incorporation deed. This is a subject which will more appropriately fall under the consideration of the board of directors, who have to provide the ways and means. The committee are, however, decidedly of opinion that neither of these courses should be adopted without first making strong efforts immediately to realize the amount payable upon the shares.

"We have examined the Parliamentary Contract Deed, and it appears to us that the parties executing that instrument, who did not avail themselves of the provision for their retiring in August, 1849, upon paying the proportion of Parliamentary expenses then due, are liable to the amount of the shares for which they signed. We have examined the list of 81 shareholders who are in that position, and find the names of several most respectable persons, who we know take a lively interest in the success of the company, and whom it would not be expedient to disoblige. In some cases the obligation of partnership and other deeds may prevent their joining a company that has not the peculiar privileges which a special act of Parliament confers; others, from removal or other casualties, do not find it convenient to take and pay up on their shares. By the examination of an account submitted to our inspection, it appears that the preliminary expenses of the company, up to the time the bill was lost the second time, amounts to 16s. 8d. per share. We think it well deserving the consideration of the board of directors, whether it may not be politic and just to allow the subscribers to the Parliamentary Deed, who did not retire in 1849, to relinquish their shares on payment of this sum per share; provided they forthwith release their shares, so that they may be appropriated rateably amongst such of the other shareholders who have signed the Incorporation Deed as may be disposed to adopt the shares and pay up, deducting the 16s. 8d. to be paid by the retiring shareholders. In all probability, many of those who appear in the list as defaulters, will, on reflection, take up their shares. Against such as do not immediately pay up or relinquish the shares upon the terms we have suggested, we are of opinion legal proceedings ought to be taken to compel the performance of their contract.

"The directors laid before us a list of the shareholders who have executed the Incorporation Deed, but have not paid up all their calls. We have not thought it necessary to examine this list; the extraordinary rapidity with which the directors have been compelled to make the calls, that they might effect advantageous contracts for the prompt execution of the works, may have, perhaps, in some cases, outrun the anticipations of the shareholders when they entered into engagements to take the shares. Independent of all *moral* considerations, gentlemen, who deliberately executed a deed binding themselves to carry out an important undertaking, in which we and they are equally interested, must feel it their *duty* as *men of business* to pay up their calls without any further delay, that the credit of the company may not suffer from their default.

"We recommend the directors, before they report the names of defaulters to a general meeting, to make a further application to each shareholder in arrear; and if such application fail of success, we advise them to proceed by action, or by forfeiting the shares to enforce payment; as, in justice to the shareholders who have fulfilled their engagements, unpaid calls ought not to be permitted to remain in arrear.

"We likewise recommend the directors forthwith to make the last call; and we make no doubt but that the shareholders will pay the amount without taking the six weeks' delay which the deed allows. We think the directors are entitled to expect this measure of support from their brother shareholders, as we find that the greater part of that body paid upon their shares in advance, to an extent exceeding £29,000, at a critical period of the history of the company, and before a single pipe was laid.

"We feel it our duty to make strong representations to the shareholders to lose no time in paying up upon their shares, as we have examined the contract deed entered into by the directors with the contractors, and find it contains the 97th clause of the company's Incorporation Deed, by which shareholders are liable for the engagements of the company to the extent of their shares only. Contractors, who have executed such extensive works as Messrs. Rigby have done, in faith of the due payment of calls by the shareholders, have a right to expect that no default will be made on their part. (Signed) "Thomas Hall, Chairman.
"Sept. 23, 1850." "W. Fickling, Hon. Sec.

"Abstract of receipts and expenditure to Sept. 15, 1850.

To amount received in respect of calls	£109,139	12	7
Deposits forfeited	69	15	8
Difference in balancing	109	16	8
	£109,319	4	11

"(Copy.) This statement is founded upon, and duly extracted from, the books of the company. (Signed) "Quilter, Ball, and Co."
"27, Coleman-street, Sept. 20, 1850."

"By outlay on land and works, viz.:—

Paid for purchases of land	6,158	10	0
„ to contractors for works at Bow	16,700	5	5½
„ „ „ for retorts, pipes, meters, &c.	40,251	2	10
„ for laying pipes	8,788	10	0½
„ for labour	10,300	0	0
„ for engineering and surveying	3,260	16	1½
	£85,459	4	5½

Brought forward				£85,459	4 5½
By preliminary and Parliamentary expenses	£6,504	12	0½		
,, law charges	3,011	15	3		
				9,516	7 3½
By office furniture	92	11	5		
,, rent and taxes	216	15	10		
,, stationery, printing, advertisements, and general charges	2,205	11	3		
				2,514	13 6
By share discount, after crediting interest received ..				164	1 1
By deposits, viz.:—					
Trustees Whitechapel-road	£1000	0	0		
,, Mile End	500	0	0		
,, London Hospital	150	0	0		
				1,650	0 0
By cash in hand as per cash book				10,014	13 7
				109,319	4 11

"Sept. 16, 1850." (Copy) "J. T. Barham, Chief Clerk."

"Engineers' Report.

"48, Moorgate-street, Sept. 18, 1850.

"To the Directors of the Great Central Gas Consumers' Company.

"Gentlemen,—In obedience to your request that I will report upon the present state of the works, and give a statement of the probable period of their completion, and the amount of money which will be required to discharge all engagements, I do certify:—

"1. That all mains (with the exception of Leadenhall and Farringdon Markets, and about one-third of the services, which will be finished, I expect, this week), are completed throughout the City, and from the boundary of the City to Bow-common.

"2. Four-fifths of the works at the manufactory are completed, and nearly the whole of the materials required for the remainder are delivered. The works will be in a condition (barring unforeseen hindrances) to commence working on Monday, and I expect the whole will be finished and cleared up within a month.

"3. Having carefully examined the eleven statements of works delivered in by the contractors, paid up to the 10th of September, and having special reference to the bills of quantities of materials and labour kept by the clerk of the works in the different departments, and having likewise received a report from Mr. Stevens, the architect and surveyor, as to the state of the buildings under his charge, I have no hesitation in stating my confident belief that the whole will be executed within the sum estimated by me as the cost, in my evidence before the Parliamentary committee—namely, £103,833, for erecting the manufacturing plant, laying down mains, pipes and services, for paving and repairing the streets, and supplying and fixing, at the company's expense, the whole of the meters required.

"4. That up to and including the 16th of September last, the company had made payments to the contractors and others to the extent of £75,798, which, deducted from the sum of £103,833, the estimated amount of cost will leave £28,035, and £7000 for extra castings, now in stock for sale, or for future works, making £35,035 to be provided to discharge all existing and accruing obligations in any department.

"I remain, gentlemen, your obedient servant,

"A. Angus Croll."

"Statement of Assets and Liabilities.

Assets.				Liabilities.			
Balance of cash ..	£10,014	13	7	Solicitors' and Parliamentary agents' accounts, subject to revision ..	£7,000	0	0
Deposits of Cash—Whitechapel, Mile End, and London London Hospital..	1,650	0	0	Estimated amount of works to be done, and materials used as per certificate from engineer ..	35,035	0	0
Arrears on calls made, and the balance on remaining calls	17,630	0	0	Contingent expenses	500	0	0
2320 Parliamentary and contractors' shares appropriated but not issued	23,200	0	0	Balance carried forward	15,809	13	7
Bricks in stock ..	850	0	0				
Iron pipes, &c. do.	5,000	0	0				
	£58,344	13	7		£58,344	13	7
Balance forward	£15,809	13	7				

"Sept. 16, 1850." "J. T. Barham, Chief Clerk."

CITY COURT OF SEWERS.

A court was held on the 17th ult. for the despatch of business; Deputy Peacock presided, and after the usual preliminary business had been disposed of,

The Chairman informed the members of the commission present, that he had received a communication from the directors of the Great Central Gas Consumers' Company; he wished to know whether it was the pleasure of the court that the same should be read. Mr. Dakin, the chairman of the company, was in attendance, to give any explanation, should any of the members of the court require him to do so.

Several commissioners considered it to be most desirable that the documents put in by Mr. Dakin should be read, the following was read by Mr. Tickner, the assistant clerk:—

"To the worshipful the commissioners of sewers.

"Gentlemen—On Friday evening last we received a report from our contractors that the mains and pipes throughout the City had been laid, and that, with the exception of a few syphons and bends which had been delayed by accident in the casting, the whole of the works in that department had been completed.

"On the following evening at nine o'clock, after the directors, the engineer, the solicitors, and the contractors had of course left their respective offices, the accompanying notice was served upon them by one of the solicitors of the Chartered Company, requiring us to show cause this day at eleven o'clock why an injunction should not issue to restrain us from laying down mains close to theirs, or in any manner to injure their property.

"An attempt by appealing to a court of equity to prevent our laying down pipes which had been previously laid, and to restrain us from committing injuries we had never contemplated, is too absurd to create a moment's apprehension on the part of this company. There is another part of the notice, which we feel ourselves entitled to treat quite as lightly, but we think it right to call your attention to the subject, as the claims it involves directly affect the rights of the Commissioners of Sewers to the free use and enjoyment of the soil of the streets, which, we apprehend, is inalienably vested in your court.

"The number of gas and water mains (some of them necessary and some unnecessary) which interlace each other in all directions under the surface of the streets at various depths, render it exceedingly difficult for any company to whom your honourable court may grant permission to lay down pipes, to execute them without unavoidably or accidentally interfering with the pipes of other companies. We have given instructions to our officers (which we believe have been carefully observed), that every effort which skill and caution could devise should be employed to prevent any injury to the property of other companies, and we have likewise communicated to them that in all cases any damage shall be made good at our expense. By the terms of our contract Messrs. Rigby are to indemnify this company from all incidental damage, whether resulting from accident or design. We are informed by our engineer that some circumstances have occurred in which the pipes of the Chartered Company have sustained injury, but he feels confident that the cost of repairing them cannot exceed £20. Whatever the amount may be, Messrs. Rigby are ready and willing to defray the charge.

"If, as the notice seems to assume, the existing companies have, by spreading their mains and pipes under the surface of the streets, acquired a right to exclude all other companies from laying down pipes so near, either vertically or horizontally, to their main or service pipes as to prevent their having what they may deem free and proper access to them for the purpose of removal, alteration, repair, or laying on new services, all further improvements as to the supply of either light or water, which the public exigencies may require, will be effectually excluded from the city.

"When the Chartered Company first obtained leave from the Commissioners of Sewers to lay down their pipes in the city, they were bound by a clause in their act of Parliament to remove their pipes at the bidding of the commissioners. By a clause introduced into a subsequent act without notice, this condition was repealed. There remains, however, in existing acts, ample provision to procure to this company the full exercise of the right to lay their pipes, with the permission of your honourable court, in the manner we have done.

"If it had been otherwise, is it to be supposed that the Chartered Company would have abstained from applying to a court of equity for an injunction during the last ten weeks, while this company's pipes were being laid, and would have made no complaint until the work had been actually completed, when, as they perfectly well knew, no injunction could issue? Had the old companies possessed the exclusive right they now pretend to "claim," and had made an application to the Master of the Rolls, they might by an injunction have saved the public from the annoyance and inconvenience to which they have been unavoidably exposed during the last two months by the breaking up of the streets for the purpose of laying this company's mains. This annoyance and inconvenience the inhabitants have patiently borne, because they are convinced that the introduction of the new company is the only means by which they can permanently secure an abundant supply of purer and cheaper gas. It would be absurd to suppose the Chartered Company really imagine that by this proceeding they can render unavailable the pipes that have been laid at so great an amount of inconvenience to the public and cost to the shareholders of the company.

"This company entertain no more apprehension of the ultimate than the immediate result of the threatened application to the Master of the Rolls. They look upon it as a speculative attempt to interpose a temporary impediment to their operations, just as they are about to commence the supply of gas.

"By order of the board,

(Signed) R. M. Massey, Secretary.

"48, Moorgate-street, Sept. 17."

Prior to the second being read,

Mr. Dakin remarked that that document was merely of a formal character.

Mr. Watson was desirous of enquiring whether Mr. Dakin could state the object of the application. Need they hear the second read?

Deputy Harrison observed that during the time that members of the court had been attending the summons of his lordship, the Lord Mayor, in the Court of Common Council, he had taken the trouble to read the second document, and from what he (Deputy Harrison) could see of its contents, he believed it to be most important to the members of that commission. He wished most decidedly that it might be read.

The Chairman: Then let it be read at once.

It ran as follows:—

"In Chancery.—Between the Gas-light and Coke Company, plaintiffs; and the Great Central Gas Consumers' Company, Joseph Rigby, and Charles Rigby, defendants.

"Take notice, that, by special leave of his lordship the Master of the Rolls on Tuesday next, the 17th day of September inst.,* at eleven o'clock in the forenoon, at the private room of the Master of the Rolls, at the Rolls-house, Chancery-lane, in the county of Middlesex, that the above-named defendants, the Great Central Gas Consumers' Company, Joseph Rigby and Charles Rigby, their respective servants, workmen, and agents, may be restrained by an order and injunction of this hon. court from cutting, breaking, or partially or wholly removing, or in any manner injuring, damaging, or interfering with the main or service pipes of the above-named plaintiffs in this cause, or any of them, and also from placing or laying, or causing or procuring to be placed or laid, any main or other pipe upon, over, or across any of the mains or service-pipes of the above-named plaintiffs, so as to be in contact with the same or any of them, or so that the said main or other pipes of the above-named defendants, the Great Central Gas Consumers' Company, when laid down, or any of them, shall be so near, either vertically or horizontally, the main or service-pipes of the above-named plaintiffs, or any of them, as to injure the same, or any of them, or prevent the above-named plaintiffs from having free or proper access to their said main or service-pipes respectively, or any of them, for the purpose of removal, alteration, repair, laying on new service-pipes, or any other lawful or necessary purpose, and from executing the said works of the said defendants, the Great Central Gas Consumers' Company, or any of such works in such a manner as to cause or produce any loss or injury to the main or service-pipes, or any other of the works or apparatus

* Subsequently adjourned to October 10th.

of the above-named plaintiffs; and that the said defendants may also be restrained by an order and injunction of this hon. court from permitting any main or other pipes already laid down by them, or either of them, as hereinbefore mentioned, to continue placed or laid down upon, over, or across, any of the mains or service-pipes, syphons, or other works of the above-named plaintiffs, so as to be in contact with the same, or any of them, or so that the said main or other pipes of the above-named defendants, the Great Central Gas Consumers' Company, as laid down, or any of them, shall be or continue so near, either vertically or horizontally, the main or service-pipes or works of the above-named plaintiffs, or any of them, as to injure the same, or any of them, or prevent the above-named plaintiffs from having free and proper access to their said main and service-pipes, syphons, and other works respectively, or any of them, for the purpose of removal, alteration, repair, or laying on new services, or any other lawful or necessary purpose. Dated this 14th day of September, 1850.—Yours, &c.

"JOHN CURTIS.

"Haberdashers'-hall, City, plaintiff's attorney.

"To the above-named defendants, the Great Central Gas Consumers' Company, Joseph Rigby, and Charles Rigby."

Mr. DAKIN then said that the object the Great Central Gas Consumers' Company had in view, in bringing the matter under the notice of the Commissioners of Sewers, was, that they (the commissioners) might be apprised of the course the Chartered Company intended to pursue. He was aware that, with the private struggles between competing companies, they (the commissioners) had nothing to do; but the proceedings then before the court, he submitted, clearly involved a principle of very high importance, the fact being that the application made by the Chartered Company to the Master of the Rolls for an injunction against the Great Central Gas Consumers' Company contained the question of the right of the Commissioners of Sewers for the city of London over the soil of the said city, the effect of which would be the taking away from that court one of the greatest powers vested in them by the act of Parliament under which they were constituted a public administrative body. The Commissioners of Sewers had given sanction to the directors of the Great Central Gas Consumers' Company to lay down their pipes for the supply of gas to the citizens residing within "the city of London and the liberties thereof;" but now the Master of the Rolls was requested to interfere. That learned lord was to adjudicate upon pipes laid vertically or horizontally.

Deputy HARRISON: Or across.—(Loud laughter).

Mr. DAKIN: Undoubtedly, or crosswise. Now, it would be readily seen that any such power vested in such an officer would operate most unjustly, because if, at the last moment, the Chartered, or any other company, were thus permitted to interfere, no new gas or water company would ever be allowed to supply the citizens, however great or injurious might be the monopoly.

Mr. WATSON could not understand how such a matter could involve them as Commissioners of Sewers.

Mr. DAKIN was not there to say more than that the directors were of opinion that it was their duty, after the receipt of the legal notice, to inform the commissioners that there was danger of the privileges of the commissioners being trenched upon. It was for the court to consider the reference, and to act subsequently according to its own discretion.

The CHAIRMAN was of opinion that, as the court had authorized the new company to lay down their pipes, it was not for the commissioners to interfere in the present dispute; he could not see how they could do so.

Deputy UNWIN considered that it would not be wise on their part to interfere.

Deputy HARRISON was of opinion that the communication was exceedingly important, not so much with reference to the Great Central Gas Consumers' Company alone, but in all cases connected with the powers of the court as to granting provision for the supply of either gas or water. He thought, therefore, that a committee should be appointed to whom the letters should be referred, for the purpose of their obtaining a decision as to whether they should interfere or not. He was of opinion that by the 133rd and other clauses of the 11th and 12th Victoria they had the power to interfere, and he did hope that some member of the court would move that such a committee be appointed. He could not do so, as in a few days he should leave town for some time. So far as he could see, he did not think that even the Vice-Chancellor could interfere with them while they acted under the authority of an act of Parliament. He considered, therefore, that it was the duty of the court to appoint a committee to watch the matter, and protect the interests of the public.

The CHAIRMAN doubted whether it would be wise in so thinly-attended a court to come to any decision upon the matter, in which opinion Deputy Harrison cordially concurred.

The CHAIRMAN then inquired whether the court would take the business at the next weekly meeting of the court, or whether he should summon a special meeting of the commissioners? He should like to know from Mr. Dakin whether he considered the case as being of a pressing nature?

Mr. Dakin did consider so; indeed he believed that even that day certain preliminary steps would be taken.

At this stage of the proceedings the Sergeant at Mace appeared; and the chairman, in obedience to the request of the Lord Mayor, was compelled to adjourn the court.

It was eventually decided that a court for the consideration of the question involved in the application of the company should be held on Friday, Sept. 20.

A special meeting of the Commissioners was held at the Guildhall on the 20th ult. for the purpose of taking into consideration "the communication from the Great Central Gas Consumers' Company, upon the subject of certain proceedings in Chancery against that company laid before the last court." There was a good attendance of commissioners, and several representatives of the Chartered Gas Company were also in court. Mr. Deputy Peacock occupied the chair.

The proceedings were commenced by the reading of a petition to the court, signed by George Meggeson, and complaining of the inconvenience caused to the inhabitants of Cannon-street, through the disturbance of the pavement for laying down the pipes of the new gas company. The petitioner stated that "in all his experience he had never witnessed a public work conducted so disgracefully," and alleged that "an undue influence was allowed to prevail in the counsels of those who have the control of these matters." At this stage of the reading of the document,

Mr. BLAKE rose to object to the reading of the petition any further. (Confusion). He wished to know whether the court would allow itself to be made the vehicle of general abuse for acts not specified.

A Voice: Wait and hear the letter.

Mr. BLAKE: But the whole of it was abuse. It ought simply to state the grounds of the complaint.

Mr. H. L. TAYLOR said the petition had been put into his hands by one of the largest ratepayers and one of the most respectable citizens of London; and, as they had often readily received complaints against the old gas companies, it was only fair that they should hear the complaint of Mr. Meggeson.

Mr. R. TAYLOR said the objection to reading the petition was not that it abused any gas company, but the very court to whom the petitioner appealed.

Mr. WALTER said, in the confusion he had just heard Mr. Tyrell, a solicitor, say, "You see how unpleasant the truth is."

Mr. TYRELL denied that he had made such a remark.

Mr. KEBBLE said the expression had been made use of by him and not by Mr. Tyrell.

Mr. WALTER said he had certainly heard the statement, but he accepted Mr. Kebble's explanation.

The reading of the petition was then resumed, the remainder of it being occupied with the inconvenience caused to Cannon-street, as before mentioned. The document having been concluded,

Mr. Deputy HOLT said, after such a petition, he must say he was ashamed to have such a friend as Mr. Meggeson, for he had known that gentleman for thirty years. (Laughter.)

Mr. ELLIOTT said the petitioner was one of his constituents, and he could bear full testimony to the truth of his statement, not only with regard to Cannon-street, but to Cheapside, King-street, and other places. A large part of the City pavement was in a state that was a disgrace to the Commissioners of Sewers.

Mr. RICHARD TAYLOR said that the petitioner did not produce the signatures of any of his neighbours, nor had he got one of the representatives of his own ward to support him; therefore he was evidently an impostor. (Laughter.)

Mr. H. L. TAYLOR could not help noticing the great anxiety of his friend Mr. Blake and others present to get rid of the truth. They would evidently have it shoved under the table if they could; but it must strike every candid mind that there was not a statement in the petition but what was strictly true (no, no); and he was prepared to reiterate that "an undue influence" in that court had placed the City in its present situation. (Confusion, and cries of "Order.")

The CHAIRMAN must say he thought the petitioner very wrong in accusing the commissioners of corrupt influence.

Mr. H. L. TAYLOR (continued): The petitioner had unquestionably been injured by the state of Cannon-street, which was one of the principal streets of the City; and he (Mr. Taylor) was prepared to substantiate that that street had been violated by the new gas company, by being broken up in the middle of the day. True, it was stated that one of their own officers had said, if he had been in town he would have given the company authority; but he defied that officer to produce any minute of the court authorizing him to give such permission. The deed into which the new gas company had entered was worthless, and was intended to be worthless at the time it was drawn up; and he said the citizens of Cannon-street had a right to complain that the company had acted in a most unwarrantable manner, and if their language was rather too strong some allowance ought to be made for the way in which their feelings had been injured. He would, therefore, move that the petition be entered upon the minutes; and as it recorded facts, he hoped the court would not, by any overpowering influence, seek to burke them.

Mr. EAGLETON would second the resolution, if it were only upon this principle. He knew that the chairman of the new gas company had sent round letters to some commissioners, and not to others, to require their attendance there to-day. What was that, he asked, but "undue influence?" He was not one of those who were favoured with one of these letters, and, knowing the circumstance, he had been all the more anxious to be present.

Mr. BLAKE rose to move as an amendment that the petition do lie on the table; and said if the petitioner had approached the court as an injured man, he was sure his good sense and education would have taught him a different way of expressing his feelings and wrongs than the manner he had adopted. The expressions he had written were calculated not only to excite contempt and ill-feeling, but reflected in some manner a disgrace upon the City at large, that one of its citizens could use such language towards the authorities. (Hear, hear.) The insinuation as to his private motives, which his friend near him had adopted, he scorned to condescend to give an answer to; but what he maintained was, that after the petitions, signed by 10,000 of the citizens in favour of the new gas company, that the court had no alternative, if it would faithfully and honestly carry out the wishes of those whom they represented, but to grant the new gas company permission to open the streets; therefore the chairman of the new gas company, who had been accused of exercising "an undue influence," if he had not diligently sought the support of those members of this court who were of his own opinions, would not only have neglected the interests of his company, but the interests of the public which he had so boldly and faithfully defended against the exorbitant exactions of the old gas companies. These companies had been repeatedly entreated politely and respectfully to meet the exigencies of the times, and like

everybody else reduce their profits to a fair remuneration for the capital they had embarked. And what was the answer of the old companies? Why, that they not only would not, but could not make any concession. Could they imagine, then, a position of greater difficulty and responsibility than that of the chairman of the new company and his friends? They had perilled the property and even the prospects of themselves and their families, to contend against powerful companies who held a tyrannical monopoly, inimical to the public interests. In this course they were guided only by a sense of public duty, and he hoped they would persevere to the last, and he was sure it would be a consolation to them to the end of their lives. Much had been said about the disruption of the streets, and he freely admitted and deeply lamented that much inconvenience and even nuisance had arisen from the accelerated means used by the new company to lay down their pipes. But what did all that show? Why it only the more fully manifested the patience—the exemplary patience—of the great mass of the citizens in deliberately (for they all knew that would follow) enduring all the consequences that would issue from their petitions and their resolutions. It had been hoped that all these inconveniences would have been prevented; and if the old company had only acted in the same spirit of fairness that governed the honest dealings of man with man all these annoyances would have been avoided. He considered this letter of Mr. Meggeson's a deliberate and flagrant insult to the commissioners, undeserved in the slightest degree whatever. The commissioners were only solicitous to discharge faithfully the arduous duties attaching to the difficult position in which they were placed; and if some degree of annoyance was inflicted upon a few it was only to confer a great boon upon the community at large.

Mr. Deputy Pewtress seconded Mr. Blake's amendment. He thought his friend who had presented the petition ought to have looked into it and had it altered. He had really made himself a party to the insult which it contained. From the petition one would actually have supposed that the whole City was in agitation, and up in arms against the opening of the pavements; but if that had been the case, they would surely have had more complaints, and letters written to the papers. It really would appear, from the petitioner, that all the obstructions in Cannon-street were owing to the new gas company. But he had walked through that street only yesterday, and found that the pulling down of houses going on there was a great source of inconvenience, blocking up the street so that only one row of carriages could pass along. Therefore some little consideration ought to be given to the new gas company, seeing the difficulties they had had to contend with in that particular locality; and, again, it was certainly very odd that no complaint had come from any other part of the City but Cannon-street, where the laying down of the pipes was unfortunately accompanied by the other inconvenience to which he had referred.

Mr. Watson said that Cannon-street was not the only place of which complaints had been made. He knew of others, and could state that Lawrence-lane had been greatly inconvenienced.

Mr. Deputy Stevens said that the repairs ordered by that court itself were often attended with inconvenience, and the inconvenience occasioned by the new gas company had been borne by the inhabitants generally with the feeling of astonishment at the wonderful rapidity with which the pipes were laid down, and of satisfaction that they would so soon have cheap gas. In Houndsditch and Bishopsgate-street he had heard of no complaints. At St. Helen's-place there was some complaint of the smell of gas, but when the workmen's attention was called to it, it was immediately remedied. Was it not a singular thing that only from the ward of Cannon-street had they only one solitary letter, and that the abusively and most disrespectfully worded one now before them?

Mr. Deputy Holt could bear his testimony to the way in which the company had striven to cause the least possible inconvenience, and he had heard little or no complaints against them.

Mr. Elliott considered that the Commissioners of Sewers and the inhabitants of the City had been injured by the operations of this company, and, therefore, he felt grateful to Mr. Meggeson for writing such a valuable and public-spirited letter. (Oh, oh!) Instead of having one letter, he ventured to say they would have an infinite number from injured individuals before the next meeting. The public had a right to complain that faith had not been kept by the the gas company, and (what was more important) that the Commissioners of Sewers had broken faith with the citizens of London. (Oh, oh! and cries of "Shame.") The bargain at first was, that the pavement should be taken up and replaced in the night time; and it was upon that statement, often reiterated with other false statements, that the inhabitants had been gulled, wheedled, and bamboozled. (Oh, oh!) Why, if the inhabitants had only known what was actually to take place, they would have seen, instead of 10,000, not 1000 signatures, to petitions. This was the head front of the mischief—that faith had not been kept with the citizens. It had begun with a breach of faith, and it was only beginning, as they would find, if things did not take place as he believed they would. (Laughter.) To the fullest extent he supported the language of the petition, believing the censure on the commission was only much within what the court fairly deserved.

Mr. Hodson could make every allowance for Mr. Elliott's warm feelings, disappointed as that gentleman must feel. Mr. Elliott had stigmatized the new company at first as a cheat and a fraud, and said it would never come into the City with its pipes, and now that it had obstinately falsified his predictions by coming into the City he naturally felt very angry with it. (Laughter.)

The Chairman then rose to terminate the discussion by putting the question to the sense of the meeting.

The amendent, that the petition be ordered to lie on the table, was carried by a majority of 19 to 5.

The Chairman then called upon the clerk to read a communication received from the Chartered Gas Company, some of the directors of which were present in court.

The letter was then read. The substance of it was a distinct denial of the charge made by the new gas company, that the Chartered Gas Company had commenced legal proceedings, calling in question the rights of the Court of Sewers over the streets of the City. Their only object in appealing to the Court of Chancery was to protect their own interests as a company, and to obtain redress for the injury inflicted upon their pipes by the new gas company, in opening the streets and laying its mains.

Mr. Hopper, one of the directors of the Chartered Gas Company, was then permitted to address the court. He said he stood there to answer the imputations cast upon his company by certain misrepresentations in an *ex parte* statement, which, it appeared from the newspapers, had been made at the last meeting of that court, by the Great Central Gas Consumers' Company. He wished to show that their proceedings were instituted with no intention whatever to invade the rights of the commissioners to the soil of the City, but simply in defence of their own rights, and to uphold them, as far as they were entitled to do, by the common law of the land. They wished to defend themselves from the encroachments of the new gas company, and to obtain reparation for the damage they had done to their pipes, and to prevent the imminent danger which now existed, and must still increase to an incalculable extent, from these encroachments. This danger involved not only the interests of his company, but those at the public at large, because the laying of pipes one over another, as the new gas company had done, must sooner or later interrupt and suspend the lighting of the City. He found that the directors of the new gas company had placed before the commission a document beginning with this passage:—[See the report of the previous meeting of the commissioners]. Now, he stood there to repel the impututions contained in this document. It was a gross misrepresentation to allege that the Chartered Gas Company had attempted to prevent the new gas company from "laying down their pipes which had been previously laid;" because he could now state that there were upwards of one hundred and seventy-four localities still unoccupied by the new gas company, and where their pipes had not been laid. The legal proceedings were instituted to try the right of one company to cross the mains of another company, and to lay down mains metal to metal, so as to render inevitable the pressing down of the pipes under the influence of atmospheric changes and the effect of heavy rains. The Chartered Gas Company felt it their duty to interfere to prevent this violation; because the infringement must eventually lead to the stoppage of the supply of gas, and cause inconceivable danger to the citizens. Owing to their having in many places overlaid the pipes already down, and cut into and come in contact with the pipes, and even the services, of the Chartered Gas Company, they would prevent their being able to carry on their examination of the pipes from time to time, for the purpose of keeping them in repair. Therefore it would be seen that they were only defending their own rights and the public interest, because it was the right of every Englishman to enjoy his property undisturbed and unmolested; and if he neglected to do so, it must be either from pusillanimity towards his own interest, or from unfaithfulness to those who had committed their interests to his keeping. The Chartered Company had over and over again complained to the directors of the new company of the injury, but no remedy was afforded; the injury went on, and they had been compelled to appeal to a court of equity for redress.

Mr. Blake asked Mr. Hopper whether, the new gas company having obtained the permission of that court to lay down their pipes, it was possible for them in all cases to have avoided coming in contact with existing pipes?

Mr. Hopper replied most assuredly, in every case, as far as his knowledge went.

In reply to a question from Mr. Deputy Lott,

Mr. Hopper stated that in no less than eighty-four different places the new company had come into contact with the pipes of his company. He then read a list of the names of those streets, among which were Fore-street, Wood-street, Basinghall-street, Whitecross-street, Redcross-street, Jewin-street, Moorgate-street, Spital-square, Aldermanbury, Aldersgate-street, Old Jewry, Finsbury-place, &c.

In reply to question from Mr. Richard Taylor,

Mr. Curtis said he was solicitor for the Chartered Gas Company in these legal proceedings. He was not assisted by any other solicitor. The case stood over till next Tuesday upon affidavits, the new gas company undertaking not to continue to lay their pipes to the injury of the Chartered Company in the interim.

Mr. Hall asked whether, in laying its pipes where other companies had been, the Chartered Gas Company had not laid them in the very manner of which they now complained?

Mr. Hopper: Never; but even if they had, that would only be an *argumentum ad hominem*.

The Chairman hoped Mr. Hopper would confine himself to simply answering the questions, and not commence making a speech.

Mr. Hall said one of the places mentioned in Mr. Hopper's list was an entire mistake—he meant Spital-square. He could affirm, from his own knowledge, that the new company had not laid a pipe of any kind in that square; therefore, for all they knew, the same mistake might have taken place with regard to many other streets stated by Mr. Hopper.

Mr. Hopper explained that with regard to Spital-square, it was at the corner of Bishopsgate-street, and adjoining 2, Spital-square, that his company's pipes were interfered with.

Mr. Blake asked whether the injury, arising from the superincumbent pressure of the new company's pipes, would bear any reasonable proportion to the expense that would be occasioned by avoiding contact with the old company's pipes?

Mr. Hopper said that was an engineering question. The danger of laying the pipes in contact with each other was not so great now as it would become. It would increase every day, as the pipes became defective and got out of repair.

Mr. Blake asked if Mr. Hopper was aware that the Court of Sewers had power to cause pipes to be removed and replaced in any way that it thought fit?

Mr. Hopper: No.

Mr. Blake would then refer Mr. Hopper to the act which gave them that power.

Mr. Hopper said his company had thought it a more direct and equitable manner of defending their rights to carry the question before a court of law.

Mr. Elliott asked what the effect of mains coming in contact with service-pipes was?

Mr. Hopper said that eleven parts of atmospheric air to one of gas would cause an explosion, and if that proportion happened to escape by these injuries, which was at all times possible, and probable, too, then an explosion, greater or less, must certainly take place, and endanger property. That, however, was a prospective evil, but immediate damage had been done to many of their mains and services, by their having been broken and cut into, and then left in that state.

Mr. Hopgood asked whether the injury done to the pipes would cost £50 or £100? (Oh, oh!)

Mr. Deputy Holt wished to put a plain question—Had not the new gas company immediately repaired the pipes whenever they had injured them?

Mr. Hopper: Certainly not.

Mr. Blake asked whether the pipes injured were new and in good condition, or only such as a slight abrasion would seriously affect?

Mr. Hooper: They were all in as good condition as they ought to be, being continually superintended.

Mr. Hopper and his colleagues were then requested by the chairman to withdraw.

A letter from the City Gas Company to the same effect as the communication above stated from the Chartered Gas Company was then read by the clerk.

The Chairman then said that the communication from the new gas company, presented on Tuesday last, had been deferred till that day, as it was advisable not to consider it without giving previous notice. The new company did not go the length of asking the Court of Sewers to defend them. (Laughter.) If it had, he dared say they would refuse. They had now, however, to consider what should be done with the communication.

Mr. Sadler was anxious that that court should not mix itself up with the squabbles of any two gas companies. He should regret if this communication should be entered on their minutes, and therefore moved that they should at once proceed to the other business of the day.

Mr. Blake believed the statement of the new gas company to be founded on truth; and if the decision of the Master of the Rolls were adverse to the new company, it at once perilled the rights and privileges of that court. (No, no.) He was in a position to prove it. If the question only affected them as individuals they might care little about it, but as it affected their fellow-citizens, whose representatives they were, they were bound to see that their privileges, conferred not by Parliament, but enjoyed by their forefathers for centuries past, and confirmed repeatedly by Parliament—they were bound, he said, to see that their privileges and rights were not imperilled. When an *ex parte* application was made to the Lord Chancellor for an injunction it might be granted, and unless care was taken in time, it might be found only after some months had elapsed, and when an application was made to dissolve the injunction, that the new gas company had been greatly injured, and that they were unable to do what this court had engaged to facilitate them in doing. The Commissioners of Sewers had bound themselves to enable the new company to carry out the object for which they had granted them their sanction; and he conceived that the battle was not at all gained until the other parties submitted to reasonable conditions.

The Chairman (interrupting): What had that court to do with this battle?

Mr. Blake: It concerned them in this manner—that if the application was decided by the Master of the Rolls so that the new gas company must take up its pipes, it was clear that the Court of Sewers would have assumed a right to grant permission which they are not justly invested with, and the effect would be that all the inconvenience of breaking up the streets, which was now over, would be inflicted upon the citizens over again, for the mere object of taking up the pipes that had been already laid, and thus destroying the property of the new company. It was plain that if the Master of the Rolls had power to compel the removal of these pipes, he had power to override the authority of the Commissioners of Sewers. But he was satisfied that neither the Vice-Chancellor nor the Lord Chancellor would do anything of the kind. They knew they had to expound the law and not to make it; and, therefore, he did not wish the commission to take any active proceedings in this matter, but they were bound at all events to refer it to a committee to watch over this application; so that in the event of an adverse decision to their interests they would be ready to protect the public rights from infringement. He would move, therefore, that the communication of the Great Central Consumers' Gas Company be referred to a committee.

Mr. Godson cordially seconded Mr. Blake's motion. Whenever the privileges of the Common Council were attempted to be invaded by Parliament, the Remembrancer was always instructed to watch the proceedings; and when the privileges of the Court of Sewers were now called in question, if they were not present by a representative to show by what authority they had given the new gas company permission, he considered they would be guilty of luke-warmness in the discharge of their duty.

Mr. Deputy Obbard said that court ought not to place itself in an awkward position with the courts of law for the sake of any company. They ought to allow the law to take its course; they were not to decide who was in the right or who was wrong; they were not lawyers even, although they had got a "Master of the Rolls" in the chair. (Laughter, caused by this jocular reference to the chairman's line of business, viz., that of a baker.)

Mr. R. Taylor said a suit in Chancery often involved collateral rights besides those of the parties immediately concerned. With this dispute in itself the court had nothing to do; but if the rights of the citizens were likely to be abridged, or counteracted, then it ought to be watched, because they ought not to allow their rights to be taken away by a side wind. If the new company had exercised its permission wrongfully, then it ought to be amenable; but they ought to take care that the right of the court to grant its permission was not taken away.

Mr. H. L. Taylor said the court had given permission to lay down pipes, but it never could give one company permission to injure another. And even if the injury was unavoidable, it surely was not for that court to throw its shield round the new company, however great might be their enthusiasm in the cause of "cheap gas." The meaning of referring the matter to a committee was employing a solicitor and counsel; and surely the court was not prepared to do that? If the injury done was done inadvertently and not wilfully, the judge would take that circumstance into account and decide accordingly; but in any case that court ought to stand aloof, and allow the two parties to fight it out between themselves.

Mr. Deputy Pewtress thought the old companies had paid a very bad compliment to that court in refusing to come before it with their complaint, which it might have redressed if well founded, instead of passing them by and going to a court of law, where it was impossible for them to dispute without bringing into jeopardy the act of Parliament under which this commission exercises its power. It would be the height of imprudence for this court to lie silently by, when a conflict was going on between two other parties, and threatened to tear their privileges to pieces in the struggle.

Mr. Deputy Corney wished to avoid entering by the narrowest chink into a court of law, because the commissioners had not granted a particular but a general permission.

Mr. Elliott said this was not a question involving their rights and privileges, but what it did involve was their characters as public men. If they had any little bit of respectability left (oh, oh! and laughter), they would wash their hands of this question, and not suffer themselves to be dragged any longer, as they had been, through thick and thin, for any gas company. It was an artful stroke of policy for the directors of the new gas company to raise the ghost of "rights and privileges" whenever they were attacked; but he hoped, however popular the cry, that court would not be led away by it. With all its hollow attempts to laugh at the legal proceedings instituted against it, the new gas company really came puling and whining before them, to beg them—to entreat them—to interpose the weight of their authority or their purse to help it out of its dilemma. (Oh, oh!)

Mr. Deputy Lott accused the new gas company of violating their engagement with the commissioners to lay their pipes in the night whenever the back of the surveyor was turned to go to Paris. "*Audax et mendax*" had been their motto; but he hoped the court would not, as the climax of all its subservience, consent to embroil itself in law for the sake of its pet. (Laughter.)

Mr. Hall thought Mr. Elliott had no right to stigmatize others with corrupt motives simply because they chose to have an opinion of their own, even if it should differ from his. It was said that persons connected with the new company sat at that board: but was it not equally true that parties connected with the old companies were there also. It was impossible in large bodies to prevent private interests from creeping in now and then; but he maintained that, in the main, they came to their decisions with a disinterested and conscientious desire to perform a public duty. The new company had been placed in a position of extreme difficulty, and everything injurious to the pipes of other companies had been done unavoidably. They had also sent word to them that all the damage they did they would readily pay for; and how could they say anything fairer? He believed that the other companies did not wish to oppress the new company by vexatious legal proceedings; neither did he believe that the new company wished to injure them; and he hoped they would meet and settle their differences amicably. He saw no cause to fear that any invasion of the rights or privileges of this court was meditated; but if anything should arise to jeopardize them, he should be one of the first to ask them to put themselves upon the defensive. If this subject was referred to a committee, they must give instructions to their solicitor (Mr. Tyrell); and as that gentleman was employed by the other party in these legal proceedings, surely that would never do. He therefore hoped the amendment would be withdrawn, and that the question would not be referred to a committee.

Mr. Blake said that after the unequivocal declaration of Mr. Hall, and which had been so loudly cheered by the court, should any attempt to infringe upon their rights be made, he would instantly come forward to defend them, and being anxious, most anxious, to promote unanimity, he would withdraw his motion for referring the communication of the new gas company to a committee.

Mr. Blake's amendment was then withdrawn, and the court proceeded immediately with the "other orders."

THE METROPOLITAN SUBURBAN GAS QUESTION.

ISLINGTON PAROCHIAL REFORM ASSOCIATION.

A meeting of this association was held on the 11th ult. for the purpose of receiving a report as to the intentions of the Imperial Gas Company to lower their price from 6s. to 4s. per thousand cubic feet, and to take such steps as might be considered expedient on the subject. Mr. Pearse, who stated himself to be a large proprietor in the Imperial and other gas companies, wished to offer a few observations. He did not appear there in any official capacity from the Imperial Company. He wished to suggest to the meeting to suspend their proceedings until after the half-yearly meeting of the Imperial Company, which would take place on the 10th of October, and at which he had reason for believing that

a proposal would be made to reduce the price of gas; at all events, he would pledge himself to bring the subject forward at that meeting. It was not pressure from without which would induce the Imperial Company to do so, for they had always been the first company to come forward with a reduction when the state of their funds permitted them to do so. It was ridiculous to suppose that, because there had been a reduction in the price of gas in the city of London from 6s. to 4s. per thousand, the same reduction could take place in the outskirts and straggling districts like Islington. He could assure them that the Chartered Company could ill afford to supply gas even in the city at that price. They had for a long while been paying a dividend of only six per cent. and no bonus, and his belief was, that the effect of this reduction in price would be to reduce the next dividend from six to five per cent. The Imperial Company had always led the van in reducing their price, and he believed the question of a further reduction was now engaging the attention of the directors, and therefore this agitation was unnecessary! (Cries of "Oh, oh!") It was all very well for Mr. Croll and the Great Central Consumers' Company to talk about giving gas at 4s. per thousand in the city, but they had not done it, and he could assure the meeting that it gave him (Mr. Pearse) very great satisfaction to be present when the Lords kicked out the Great Central Consumers' Bill. (Laughter, and hear, hear.) But let them look at the difference between the city of London and such a parish as Islington. The city of London company had their works at the foot of Blackfriars-bridge, and immediately on the gas coming out of the works it was making profits, whereas Islington took 75 or 80 miles of main, absolutely more than the city of London, and the Imperial Company were, in fact, only lighting their hedges and ditches. (Laughter.) The Legislature allowed gas companies to make a profit of 10 per cent. and he (Mr. Pearse) belonged to half a dozen gas companies, and there was not one that did so, and the Equitable Company, which lighted the Strand, the city of Westminster, and the club-houses, only paid 2½ per cent. He thought, therefore, it could not be said that the gas companies were receiving outrageous profits. In answer to questions put by Mr. Rae, Mr. Elt, and Mr. Blake, Mr. Pearse stated, that it was not the Equitable but the London Company in which there had been gross mismanagement and extravagance. The Equitable had now reduced their price to 5s. per thousand feet, and yet they paid 2¼ per cent. He believed that the contract between the Imperial Company and the trustees of the parish of Islington had still four years to run. He was sure the directors of the Imperial Company were anxious to reduce the price of gas, if they could do so with a fair dividend to the shareholders; and he pledged himself to press upon them the subject at the half-yearly meeting on the 10th of October next.

This course was opposed by Mr. Elt, Mr. T. Green, and others, and supported by Mr. BILLETT, of St. Pancras (who said he attended that meeting as a member of the Parochial Committee of St. Pancras to hear the proceedings). He was much astonished to hear the statements of the last gentleman, many of which were not founded in truth. When he talked of the supply of gas in the city of London been 3,600,000, did he mean the day, month, or year? (Cries of "The year.") Then he (Mr. Billett) begged to tell that meeting that the consumption of gas yearly in the City was 500,000,000 of cubic feet, which was a very different amount from 3,600,000. (Hear.) It was very important for the public, in discussing a question like the gas question, that they should not be led away by mere clap-trap, but have right data to go upon. (Hear, hear.) Now, another mistake the last speaker had made was in asserting that Mr. Croll, when he came to the Tottenham works, found the price 9s. per thousand, that he reduced it to 6s., and the company then paid seven per cent. Mr. Croll never did any such thing. He found it at 7s. it still remained at 7s. per thousand feet; the dividend was never more than six per cent., and the surplus of £5000 was all moonshine. Next, he said in Liverpool gas was supplied at 3s. per thousand; whereas the fact was, that the gas company charged 4s. 6d., notwithstanding the vast facilities for obtaining coals, and their cheapness there, as compared with what was the price in London. The gentleman had been very cautious about the price of gas at Manchester; he said it was supplied at a very "small price," but he did not state what that price was. (A voice, "Five shillings.") Well; and yet it must be borne in mind that the consumption there was enormous, there being in many mills as great a number as one thousand lights burning in one mill. Mr. Croll's declaration had been quoted, that he would supply gas to the city of London for 3s. 6d.; but they had no proof that Mr. Croll's estimates were correct. He had not done it yet. The Great Central Company had been in existence two years, and what had they done? They were to be ready to give the supply early this year, then on the 1st of June, then on the 1st of September, and, lastly, on the 29th of September; and they were as far off as ever. It was a farce to talk of the enormous profits of gas companies, when the fact was stated that, of the 13 gas companies in this metropolis, there were several not paying any dividend at all. And it was a notorious fact, that the other companies were not averaging five per cent. without any bonus, and this with three millions of capital at stake. Was it not likely, therefore, if the companies could improve their profits by getting a greater consumption at a cheaper rate, they would do so? Was it not likely that they would look out for talent, in order to make their gas at as cheap a rate as possible. (Hear.) He begged to tell that meeting that they had done so. They had been to France, Germany, and America for that purpose; being fully sensible of the fact, that the cheaper gas was sold the greater amount would be consumed; and with this before them, he would ask, who was Mr. Croll, that all the talent for making gas cheaper than any one else was centered in his person? He (Mr. Billett) had not a single share in the Imperial, or any other metropolitan gas company, and he should be happy to see the price of gas come down to 5s., or 4s., or less, if it were practicable; but, upon the principle of even-handed justice, he thought they had no right to do so at the risk of leaving the shareholders without a penny upon the capital they had expended in giving to the public so great an advantage as gaslight. If Mr. Croll possessed all the talent for making cheap gas, it was a singular thing that he never exhibited it during the period he was the engineer of the Chartered Gas Company. He never did anything to reduce the price of gas, either in the Chartered or Tottenham works, the latter charging 7s. to that day, and not paying six per cent., for the Property-tax was deducted from that amount. Therefore, the statement of Mr. Croll, that he would be able to supply gas at 3s. 6d. per thousand was mere assertion. The declaration, therefore, that this new City Company would supply the City at 4s. per thousand, was no criterion for them to go by. It was no proof that gas could be made and distributed in districts, like that of Islington or St. Pancras, at 4s. per thousand feet. When Mr. Croll filled his pipes and gave the supply then he should have credit, but that had not yet been done, and they had no right to give Mr. Croll credit for more than he had done. But, even suppose it to be done in the city of London at 4s., what criterion was that for demanding that the Imperial Company should supply it at the same price. The City required about eighty miles of main, and the consumption, by the Great Central Company's own estimate, was five hundred millions of cubic feet per annum. The Imperial Company had about eight hundred miles of main, and whilst in the City gas was used in almost every house, from the cellar to the garret, in the Imperial district they straggled about in some instances for half a mile, without supplying a single light; and, when they looked at the enormous loss of gas in leakage in the filling 800 miles of mains, he put it to them, as men of sense, whether there could be any analogy between the cases of the city of London and the district lighted by the Imperial Company. It must be obvious to every mind that the loss by evaporation must be immensely greater in the larger than in the smaller district. He thought it proper that those who were agitating the gas question should have full information upon the subject; and with regard to what had fallen from the last speaker about putting out the gas in St. Pancras, that was the London Company, which started as a cheap company, and ran through Regent-street and other places, and yet paid no dividend. That company undertook to light the Southampton Estate, St. Pancras, for seven years, at £3. 10s. per lamp; but, when their contract was out, they refused to do so under six guineas. The commissioners refused to comply with the imposition, and resorted to oil and naphtha, and the result was, that they had now come back again to the Imperial Company. This was information which he thought they ought to have; but before he sat down he (Mr. Billett) wished to know if the secretary had not some communication to lay before the meeting from the Imperial Company, as he understood that it was for the purpose of receiving such communication the meeting was called.

Mr. PEARSE: Oh, yes, there was one sent last Saturday. (Cries of "Read, read.")

Mr. C. PALMER protested against that letter being publicly read, as it was a personal attack upon their secretary. He had read that letter, and he had no hesitation in declaring that it was a disgrace to the Imperial Company, and an insult to the people of Islington. Besides, he considered it a private letter, and that Mr. Harris wrote in his private capacity to the company, and not as the secretary of the association.

Mr. BILLETT: But he represented himself as the organ or representative of the four parishes of St. Marylebone, Paddington, St. Pancras, and Islington. (Hear, and "Oh, oh!")

Mr. PALMER said he would put it to the meeting whether, when such a paragraph as this appeared in the letter, they could consider it a public document:—"The directors decline accepting you as the medium of communication between them and their very respectable customers." (Cries of "No, no.") It was his (Mr. Palmer's) intention to have moved a resolution to the effect that the question stand adjourned until after the 10th of October, to have enabled Mr. Pearse to bring the subject before the half-yearly meeting of the shareholders of the Imperial Company; but after that disgraceful letter he thought they had better have nothing to do with such persons. (Loud cries of "Hear.") He regretted that Mr. Harris had described himself in his letter to the Imperial Company as the representative of the four parishes; but it did not go from the association, and therefore the reply to Mr. Harris was a private letter. His advice to Mr. Harris was not to read it. (Loud cries of "Hear, hear.") They did not want to ruin any body; but he thought if the Imperial Company were not prepared to give them gas at 4s., they had better begin to dig their pipes up. (Hear, hear, and laughter.)

Mr. PEARSE believed there would be a reduction, but that agitation would not do it. (Cries of "Oh, oh!")

Mr. HOLGATE denied this assertion. It was the agitation that was doing the thing, and would do it. He called upon them to pay no attention to the statements they had heard, as Mr. Pearse had admitted he was an interested party. (Hear, hear.)

Mr. CHIRNEY, of King's-cross, said, having taken a prominent part in agitating this question at the early part of the year in his own locality, he was naturally anxious to see what they were doing there. Himself and two or three neighbours had the same idea that gas in that district was too high, and they called a public meeting, at which a deputation was appointed to wait upon the directors of the Imperial Company. They had a very handsome letter stating that the directors would be glad to see the deputation. On going to the directors they told them that the price of the Imperial gas was very high, and that they, as consumers, considered they were getting too much profit. They were met by many of the powerful arguments, such as had been used there that evening, with regard to the length of mains, unprofitable district, loss by leakage, &c.; but the directors promised that as soon as ever they could afford to take less for their gas, the consumers should have the benefit of it. The deputation pressed for a specified time, when they might hope for such reduction; but although the directors would not give that, they said they thought it would be at no distinct period, and he (Mr. Chirney) left with a sort of conviction, and which he still had on his mind, that ere long a considerable

reduction would be made. (Hear, hear.) They felt some assurance in the promise of the directors, as respectable men, and that being the case, the consumers, whom the deputation represented, felt disposed to wait for some reasonable time, when, if the company did not come out with a reduction handsomely, they were determined to take steps to compel them to do so. (Hear, hear.)

Mr. PALMER said his friend Mr. Harris had been over zealous in writing that letter to the Imperial Company he admitted, but he should object to such a letter as that in reply being read.

Mr. PEARSE: I think it will be published. (Tremendous uproar and groans.)

Mr. DANIEL HARRIS said, as the threat had been held out to him that the letter would be published, he would read it to the meeting, and publish it himself, and they would then see who had the cleanest hands, him or the company. (Cries of "No, no," and cheers.) He had challenged the Imperial Company to an inquiry, and he would state the case before he read the correspondence; but as a proof that he was authorized by the other parishes, he would also first read letters from Marylebone, Paddington, and St. Pancras. The case was this: About five years ago, he (Mr. Harris) became answerable for some debts for his brother, and in consequence of the difficulty, he placed another name over the door, and signed a contract for gas in the name of John Harris, the money being due from a previous tenant. Since he had been honourable secretary to the Islington Parochial Reform Association, he had been made a mark of; and one day two persons came into his shop, and showing him a piece of paper, asked him if that was his signature, and being taken aback at the moment, he inadvertently replied no. They went away to his brother, who lived in Edward-street, Portman-square, and got an admission from him that it was in his (Mr. D. Harris's) handwriting. He was then summoned to the County Court; and seeing on his arrival there the solicitor to the Imperial Company with a lot of the Islington Reform Association bills before him, and being asked by Mr. Wakeling if he could prove a six months' notice, and finding he could not, he advised him to pay the money, which he did, as he was also informed the Imperial Company had got reporters there to make a parade of the case, that the secretary of the Islington Reform Association was summoned, in the next day's newspaper. That was the whole case; but he thought it was quite sufficient for him (Mr. Harris) to pay his own just debts, without being compelled to pay those of another person. (Loud cries of "Hear, hear.") He would, however, read the whole of the correspondence which had taken place between himself and the Imperial Company; and as the letters had been threatened to be published, the opportunity should be given of publishing his reply also. Mr. Harris then read his letter to the Imperial Company, together with the following reply:—

"Imperial Gas Light and Coke Company, 33, John-street,
"Bedford-row, Sept. 6, 1850.

"Sir,—I am desired to acknowledge the receipt of your letter, dated 3rd inst, purporting to be written on behalf of the parishioners of St. Marylebone, Paddington, St. Pancras, and Islington, whom you state that you represent, calling upon the Imperial Gas Company to make a reduction in their charge for gas, from 6s. to 4s. per 1000 cubic feet. The directors have already received and communicated with deputations composed of highly respectable inhabitants of the above parishes, on the subject matter of your letter, with whom they have entered into full and, as they hoped satisfactory, explanations, as to their past and proposed future policy; and they are at all times ready to afford such explanations to their customers. Before, however, entering into such explanations with you, I am desired to inquire of you whether you are the same Mr. Daniel Harris who signed a contract to burn this company's gas at No. 3, Pleasant-row, Battle-bridge in the name of John Harris, and upon being applied to for payment of £3. 9s. 3d. for gas supplied under such contract, denied your liability, stating, most positively, in the presence of two witnesses, that you had no knowledge whatever of the signature; but, upon the collector of the company waiting upon Mr. John Harris, of Edward-street, Portman-square, and ascertaining from him that the writing was that of his brother, Mr. Daniel Harris, you said it was useless for you to deny it any longer, and paid the debt and costs. If you are this Mr. Daniel Harris, which the directors presume, from your address being the same, that you are, you will not be surprised that the directors decline accepting you as the medium of communication between them and their very respectable customers in the parishes referred to in your letter; if not, I have to apologize for making the inquiry, occasioned by the similiarity of name and address.

"I am, Sir, your obedient servant,
(Signed) "ALEXANDER HENRY, Secretary.
"Mr. Daniel Harris, No. 1, Bowman's-place, Upper Holloway."

Mr. Harris's letter in reply acknowledging himself to be the same individual was received with loud applause; but, at its conclusion, a tremendous scene of uproar took place, it being alleged that Mr. Billett had a copy of the letter from the Imperial Company in his possession, and was following Mr. Harris whilst he read it line for line. The uproar and threatening aspect of the meeting were such, that Mr. Billett had to appeal for protection to the chairman.

Mr. GREEN charged Mr. Pearse with having got into the room by means of an imposition, which Mr. Pearse denied. After continued uproar,

Mr. ELT called on the meeting not to be diverted from its object; and moved "That a committee of nine be appointed to report to a future meeting whether it will be beneficial to the consumers of gas in the parish of St. Mary, Islington, to support a new company to supply the consumers with cheap gas."

Mr. C. PALMER seconded the resolution, and it was carried unanimously, and a committed appointed.

Mr. GREEN said, in reference to the letter of the Imperial Company, he would now move the following:—"That this meeting, having heard the explanation of their worthy secretary, Mr. Daniel Harris, relative to the correspondence with the Imperial Gaslight Company, are of opinion his character stands higher than it ever did, if it were possible, and that the letter of the Imperial Gas Company ought never to have been written."

Mr. C. PALMER seconded this resolution, which was also carried *nem. con.* amidst loud applause.

The proceedings terminated at a very late hour.

At another meeting of the association held on the 25th ult., for the purpose of receiving a report from the committee appointed to investigate and report as to the propriety of establishing a Gas Consumers' Company for the parish,

HENRY LORD, Esq., having been called to the chair, the following report from the committee was brought up and read to the meeting:—

"Sept. 23, 1850.

"At a meeting of the sub-committee appointed on the 11th inst., to inquire and recommend to the Islington Parochial Reform Association the advantages and necessity of a new company, to be called the Islington Gas Consumers' Company, the sub-committee beg to recommend the following for the approbation of the association, with a view to carry out ulterior objects, should necessity require:—

"That a communication having been made, and read to this meeting, by an engineer, offering to take a large interest in a new company, to be called the Islington Gas Consumers' Company, and to give security for any amount required for the carrying out the same, and engaging to place the company in a situation to supply the consumers at 4s. 6d. per thousand cubic feet for seven years, and guarantee the shareholders six per cent. on the capital advanced, the committee are of opinion, from statements made to them relative to the intention of the Imperial Gas Company to reduce the price of their gas on and after the 10th of October, that it will be advisable to adjourn the subject of the new gas company until the directors have decided upon what they intend to do in regard to the price of gas, and this committee accordingly recommend the Islington Parochial Reform Association to wait the determination of the Imperial Gas Company.

"THOMAS LEWIS, Chairman. "C. PALMER,
"J. J. GRIFFITHS, "T. GREEN,
"JAMES PINCHBECK, "J. H. ELT."
"RICHARD HOLGATE,

Mr. LEWIS, in moving the adoption of the report, observed that as there was every reason to believe the Imperial Company were about to reduce their charge for gas, it was thought advisable to wait until after the 10th of October, when the half-yearly meeting of the shareholders of the Imperial Company would take place.

The resolution adopting the report was seconded and carried unanimously.

A long and stormy discussion then ensued as to the conduct of Mr. Harris, the honorary secretary, in having withdrawn his name from the handbill convening the meeting, and it was intimated that he had resigned his office. A letter from Mr. Harris, was, however, received, which, whilst it complained that he had not been supported in his struggles on the gas question by the association in the way he had expected, still offered his services to the association so long as thay had confidence in him. A deputation was ultimately appointed to wait on Mr. Harris.

EAST PANCRAS PAROCHIAL ASSOCIATION.

A very numerous meeting of this association took place on the 13th ult., for the purpose (amongst other matters) of receiving a communication from the secretary of the St. Mary Islington Parochial Asssociation, calling for co-operation in the movement to compel the Imperial Gas Company to reduce the price of their gas from 6s. to 4s. per thousand cubic feet.

Mr. JOHN WORRELL having been called to the chair,

Mr. BEEVOR, the honorary secretary, read the communication from the Islington Association, signed by Mr. Daniel Harris, the honorary secretary, which stated, that as it was an established fact that in most parts of London gas was being supplied at 4s. and even at 3s. 6d. per thousand cubic feet, there was no reason why the great districts of St. Pancras, Marylebone, Islington, and Paddington, should not have it at the same price. The men of Islington required the co-operation of the associations of St. Pancras to enable them to effect their object.

The CHAIRMAN observed, that it was all very well to make these statements about gas being at 4s., 3s. 6d., and 3s., but was it the fact? (Hear, hear.) And if it was the fact, then came the question whether that was the character of district in which the companies could afford to reduce the price to that extent. It was no use getting up a violent clamour against the companies as the people of Islington appeared to be doing, unless they could really show that they were receiving enormous profits; and even then it was far better that they should take a gentlemanly but at the same a determined course of action. (Hear, hear.)

Mr. HANSHAW entirely agreed with the remarks of the chairman. He thought the violence of the people of Islington was not very becoming in this matter; and, therefore, he thought the people of St. Pancras would effect the object of a reduction in the price of gas, far better by taking the question up in their own way rather than in co-operating with the Islington Association. With these remarks he would move "That a deputation be appointed from the association to wait upon the directors of the Imperial Gas Company, to express to them the opinion of the association that some reduction ought to be made in their charge for gas, and to know how far they are prepared to meet the wishes of the association."

Mr. BEEVOR seconded the resolution.

Mr. STOCKTON had much pleasure in giving this motion his most cordial support. Bodies like that, representing as they did the opinions of the mass of the ratepayers, had a perfect right to exercise powers vested in them for the benefit of their fellow men, whether it was with regard to the question of gas or anything else. But in taking these steps it must be borne in mind that they were dealing with respectable companies, and with men of business. (Hear.) Although they might differ from the gentlemen of the Imperial Company as to the price charged for their gas, that was no reason why they should bully them, as had been done by the association of the neighbouring parish. However much they might differ from the gentlemen

of the Imperial Company, they were bound to treat those gentlemen with becoming respect. From what had come to his (Mr. Stockton's) knowledge in reference to the Parochial Association of Islington, he thought it would not at all conduce to the good character of the Parochial Association of East Pancras, to have anything to do with that body. He considered that they would be acting far more wisely in taking the course proposed by the resolution, than in taking any part with their more mercurial friends in Islington.

Mr. KISSICK, the honorary secretary of the Central Parochial Association of St. Pancras, said he entirely concured in the remarks which had fallen from the previous speakers; and some fault might be found with the Central Association at Colville-place, for having appointed a deputation to co-operate with the Islington Association, but they were not then aware of certain circumstances which had since transpired. It was utterly absurd and ridiculous to suppose that any good could be done by bearding and bullying a great and powerful company like the Imperial Company, as the Islington people had done. If there was any necessity for a stir he thought the borough of Marylebone had quite spirit enough and wealth enough in itself to erect its own gas works and supply its own gas. He considered the Imperial Company could equally afford with the Equitable and the London Companies, which lighted certain portions of that parish, to reduce their price to 5s. per thousand; but they could only be perfect madmen who would compare such districts as Marylebone, Pancras, Paddington, and Islington with the city of London, where fifty times the amount of gas was burned, and whilst the outskirt companies had twenty times the distance to go.

Mr. BILLETT, a member of the vestry, said he was much pleased at the rational and business-like way in which that association had taken up this subject, as compared with the rabid and bullying conduct of the Islington people. He had attended a meeting the other evening at Islington, and he had no hesitation in declaring that any co-operation on the part of the association of St. Pancras with the Islington Association would be an utter disgrace to them. The secretary of the Islington Association had in the first place had the effrontery to write a letter to the Imperial Gas Company, setting forth that he did so as the representative of the four parishes of St. Pancras, Marylebone, Paddington, and Islington; but when the reply of the Imperial Company came, an attempt was made by Mr. Daniel Harris and his friends to burk it, on the plea that it was a private letter. By his (Mr. Billett's) perseverance, however, and a slight intimation from another gentleman that the letter would in all probability be published, the letter was read; and in order that that meeting might be made acquainted with the facts, he (Mr. Billet) would read the copy.—(He here read the letter to the meeting, addressed to Mr. Daniel Harris by the Imperial Company, which will be found in the report of the Islington meeting.) The honorary secretary in fact admitted the charge; and what did that meeting suppose the association of Islington did after that admission? They passed a resolution to the effect, that having heard the explanation of their worthy secretary, Mr. Harris, they considered his character stood higher than it ever did, if that were possible; and that the letter from the Imperial Company ought never to have been written. Now, after so identifying themselves with, and approving the proceedings of their secretary, as the Islington Association had done, he would ask the gentleman around him whether they ought to compromise their own characters by co-operating with the Islington Association? (No, no.)

The CHAIRMAN said certainly, after the statement made by Mr. Billett, there could be no co-operation between the two associations.

The resolution was then put and carried unanimously; and a deputation was appointed to wait on the directors of the Imperial Gas Company; and the honorary secretary was requested to write a letter in reply to that of the Islington Association, stating the course which had been adopted.

Another numerous meeting of the association took place on the 27th ult. for the purpose of receiving the report of a deputation appointed to wait on the directors of the Imperial Gas Company.

Mr. CRAMP, a member of the vestry of St. Pancras, occupied the chair.

Mr. BEEVOR, the honorary secretary, brought up his report as to the interview of the deputation with the directors of the Imperial Gas Company. Pursuant to appointment, the deputation, consisting of Mr. Worrell, Mr. Stockton, Mr. Beevor, Mr. Concanen, Mr. Hanshaw, and Mr. Denman, waited that morning on the directors of the Imperial Gas Company, and were received by the board with the utmost courtesy. Mr. Worrell opened the proceedings by stating that the deputation was appointed to wait on the directors by an association of a large and influential body of ratepayers and gas consumers, called the East Pancras Parochial Association, the object of which was to watch the interests and promote the welfare of their fellow rate-payers generally. Amongst other matters the question of the price of gas had been considered by the association, and they felt that there ought to be a reduction. They did not come before the directors with any hostile feeling, such as had been displayed in an adjoining parish, or to dictate to them what reduction (if any) could be made to meet the spirit of the times. They left that entirely in the hands of the directors, but he thought it possible that some reduction might be made. Mr. Stockton pointed out to the board that if a reduction was made the consumption of gas would be greatly increased, so that the company would eventually be gainers instead of losers by the reduction. Mr. Concanen repudiated the hostile feeling attempted to be got up by certain parties against the Imperial Company; and Mr. Hanshaw intimated that if the price of gas were reduced, he would himself have it laid on to every room of his house, and even on his staircases, and he had no doubt many would follow his example. The chairman of the board observed that he and his colleagues were happy to receive a deputation from so highly respectable and influential a body as the St. Pancras Association, and was much pleased at the kind and courteous spirit in which they had taken up the gas question. It had always been a principle laid down by the Imperial Company to reduce the price of gas in proportion to consumption. They had no power to give at present a distinct pledge as to a further reduction, but a general court of proprietors would take place on the 10th of October next, and it was the intention of the board of directors at that court to call the attention of the proprietors to the question of the price of gas, and they entertained no doubt but a reduction would take place. A member of the board, in reference to the recent proceedings which had taken place in Islington, remarked that of all the parishes supplied by the Imperial Company, Islington was the least profitable, as it consisted of only two business streets, all the rest being wide and straggling, with but very few consumers. The deputation having thanked the board for their urbanity, then withdrew.

Mr. WORRELL begged to remark that so convinced was he of the sincerity of the board that it was their intention to reduce their price, that he had at once ordered the gas to be laid on to his house. (Hear.)

Mr. A. C. CONCANEN said there was one particular point strongly dwelt upon by the directors of the Imperial Company to show that it was unfair to expect in St. Pancras, and the outskirt parishes, a similar reduction to that which had taken place in the City, and in which he must say he cordially agreed with them. In the first place there was no comparison in the number of lights burned, and secondly, it stood to reason that with upwards of 800 miles of main there must be a considerably greater amount of loss by leakage than in a small close district like the City. (Hear.) Therefore, to expect a reduction to that extent was unreasonable. In the course of the remarks, one gentleman of the board observed that, even supposing that they reduced the price of their gas 1s. per thousand feet, it would decrease the revenue of the company £20,000 per year; but they admitted the probability that the increased consumption caused by the reduction might make up for the loss, although it would be some time before it reached that amount. On the whole, the gentlemanly bearing with which the deputation was received, and its results, was highly gratifying and satisfactory.

Mr. PRICE was much gratified with the result of the interview, and begged to move the following resolution:—"That this meeting has heard with extreme satisfaction the result of the interview of the deputation appointed by this association with the directors of the Imperial Gas Company, and congratulate their fellow-ratepayers, and the gas consumers of the northern districts of the metropolis generally, that by means of the pacific and respectful course pursued by the East Pancras Parochial Association, a considerable reduction in the price of gas will, it is believed, shortly be secured to them throughout the district lighted by the Imperial Company.

Mr. CLACK (a vestryman) seconded the motion, and, after a few observations from Mr. Pearse, and one or two other gentlemen, the resolution was carried unanimously.

MARYLEBONE PAROCHIAL COMMITTEE.

On Thursday, the 3rd inst., a very numerous special general meeting of the members of the Old Parochial Committee of St. Marylebone took place at the central committee room, the Westmorland Arms, George-street, Manchester-square, for the following purposes:—

To confirm the minutes of the last meeting, and also to receive the auditors' report and cash account of the committee for the present year.

To consider the following proposition appended to a requisition received from Mr. Belton:—

"To consider the propriety of appointing a committee of five members to co-operate with the 'Islington Parochial Association,' or to appoint an independent committee, to obtain a reduction in the present price of gas supplied to this parish."

Mr. CHARLES FRAMPTON, of St. Mary's district, having been called to the chair, and the auditors' report, as to the state of the funds of the association, having been read and adopted,

Mr. C. BROTHERTON, the secretary, read the correspondence which had taken place between the vestry of St. Marylebone and the Imperial and Chartered Gas Companies, on the subject of a reduction in the price of gas, in the month of April last, copies of which had been transmitted to him at that period by Mr. Flood, the vestry clerk.

Mr. BELTON then brought forward his motion. Whilst a struggle was going on in the adjoining parishes in order to secure a reduction in the price of gas, himself and friends, who had signed the requisition, had considered it unfair that the parish of Marylebone should not take part in such struggle. Islington, under the guidance of Mr. Harris, had led the van, and how had he been met? Not by fair and open argument, but by an attempt on the part of the Imperial Company to blast his fair fame by scandal. After mature consideration he was not going to call upon Marylebone to co-operate with Islington, from certain circumstances which had transpired there, nor would he ask them to be connected with the adjoining parish of St. Pancras in this gas movement, for there a species of toadyism had been adopted towards the Imperial Company which showed that the parties concerned had entirely forgotten the interests of the ratepayers. (Oh, oh.) There were other companies—the Western Gas Company—had expressed their readiness to lay down their pipes in the parish of Marylebone; but how had they been met? Why, every petty obstacle had been thrown in their way; and they had been bound down in penalties of £20,000 or £30,000 to lay down their mains in places where they were not wanted, whilst they had been refused permission to lay them where they were wanted. And all this was done to aid the monopoly of the "Imperious Company," he should call it, who, instead of employing science to produce the best article, absolutely produced the very worst gas that was made in London, and charged the highest price for it, because there was no competition. He would not ask the committee either to join the people of Islington or the toadies of St. Pancras in this movement, but he would move the following resolution:

"That the time has now arrived when the gas consumers of a great portion of the metropolis have a right to demand from the companies supply-

ing them, and more particularly the inhabitants of the parish of St. Marylebone from the Imperial Gas Company, who have had the exclusive privilege of supplying the private consumers and public lights to 12 or 14,000 houses in this parish for 25 years—they consider themselves entitled to demand from the company an immediate reduction in price from 6s. per thousand now paid, to 4s. per thousand, the highest price charged in the city of London, where competition is allowed to exist. We also consider the scientific nature of gas in its manufacture is capable of being produced in great purity, and, from the acknowledged capabilities of the Imperial Company, to produce better gas than we are now supplied with, and, accompanied with a constant daily supply, by a general use of meters, in the opinion of this committee, the advantages will be reciprocally beneficial to the company by an increased demand, and by the parishioners from being relieved from a continual cause of dissatisfaction."

Mr. RAY seconded the resolution. After some discussion, as to the resolution not being in accordance with the terms of the requisition,

Mr. H. C. WILSON said he could understand the principle of the resolution proposed, namely, that the time had arrived when the consumers had a right to expect a reduction in the price of gas, and in that principle he cordially concurred; but he could neither concur in the tone in which that resolution had been proposed, nor in the language which the resolution itself contained (Hear, hear.) He must confess, notwithstanding Mr. Belton's opinion, that he far preferred the decorous and gentlemanly course of proceeding of the St. Pancras people in addressing the Imperial Company on this subject, than the course adopted by the people of Islington, which Mr. Belton seemed disposed to imitate (Hear, hear.) He had the pleasure to know several of the gentlemen who formed the deputation from St. Pancras to the Imperial Company, and, knowing them to be good reformers, he begged to tell that meeting they were far above any aspersions which Mr. Belton could throw upon them (Hear, hear.) Whilst, therefore, he admitted the principle that the time had arrived for asking for cheaper gas, he should be very sorry to find that committee, as a public body, going to the Imperial Company, a commercial body of gentlemen, and, in the terms of the resolution, "demand" that they should reduce their gas to 4s. per thousand (Hear.) Why, they might just as well walk into a tradesman's shop and "demand" that he should sell to them an article at the price at which they required it, whether he had given more for that article himself or not (Hear, hear.) If they went to the Imperial Company, let them go in a respectful manner, and state, that, from the reduction in the price of coal and the diminished cost of labour, they believed the period had arrived when they felt a reduction might be made, and that they hoped the matter would receive due consideration; but he thought they had no right to make a demand in the terms of the resolution (Hear.)

Mr. M'EVILY had listened with great attention to the terms of the resolution, and for the life of him he could not understand it (Laughter.) He might be exceedingly obtuse in intellect, but it appeared to him that Mr. Belton had got hold of a dictionary and had tumbled all the hard words he could find together to make a resolution of some sort, and he believed it would require all the energies of a committee to unravel its meaning. He agreed in the principle, that the time had arrived when the price of gas should not only be reduced, but that they should have a superior article at the reduced price. If that took place, a large increased consumption would be the result; but now the introduction of gas into rooms and private houses was objected to on the ground that it gave people the headache. In Edinburgh the gas was so pure that it was the boast of the people that they had not a candlestick in the house; and why, therefore, should this, the metropolis of the world, with all its wealth, be behindhand in this branch of civilization (Hear, hear.) He thought this motion to a certain extent necessary, for he had seen, by a report in the *Observer*, that a gentleman connected with the Imperial Company had, at a meeting at Islington, pledged himself to bring the matter forward at a meeting of the shareholders on the 10th of October. He agreed with Mr. Wilson, that they had a right to treat public companies like the Imperial Company with respect.

Dr. GRAY said the subject of gas had engaged his attention for many years, and he was quite convinced the Imperial Company could not make good gas from the species of coal they used. If the Imperial Company were wise they would use the scientific means at their disposal, and give gas of greater purity and of greater illuminating power, and then, he thought, there would not be so much complaint about price. He could not tell whether they burnt arsenic with their coal, but he could declare that in a close room gas always gave the headache; and he could state, as a medical man, that it was not supplied in a state fit for combustion, and was greatly prejudicial to health. Indeed, hundreds of poor young men and women in linen-drapers' and other shops were annually destroyed through the inferiority of gas. He threw these remarks out as suggestions, seeing a gentleman belonging to the Imperial Company present; but at the same time he agreed that they had no right to make demands, but to treat a great body of commercial men like the Imperial Company in a respectful manner. He would say to the Imperial Company, "If it is not in your power to reduce your price for gas, for heaven's sake give it us purer, for it is now absolutely poisonous." (Hear.)

Mr. RICHARDSON, inspector of the Imperial Company, said he attended there as a ratepayer and member of the committee, and not in his capacity as an officer of the company; but he could not allow the observations of Mr. Belton to pass unnoticed. Mr. Belton appeared desirous that the respectable parochial committee of Marylebone should adopt the same line of conduct as Mr. Daniel Harris and certain parties in Islington. This Mr. Daniel Harris had represented himself as the organ of the four or five great parishes of Marylebone, St. Pancras, Paddington, Islington, and Hackney; and who did that meeting suppose gave this Mr. Daniel Harris the authority to represent himself as the organ of the great parish of Marylebone? (Hear, hear.) Why, Mr. Belton. (Laughter, and cries of "No, no," from Mr. Belton.) He (Mr. Richardson) would prove that, when his authority was questioned, Mr. Harris read a letter from Mr. Belton, and said, "If you don't call that an authority from Marylebone, I don't know what is." (Laughter, and hear.) The Imperial Company were always ready to meet any body of consumers or gentlemen who came to them in the fair and respectable manner the St. Pancras people had done; but they were not likely to be bullied into doing that which as commercial men they felt would be ruinous to themselves. (Hear.) Mr. Belton knew a great deal better what was a fair price for cabbages than the price of gas (laughter); but he begged to tell that meeting that Mr. Belton might have saved himself the trouble he had taken, for the directors of the Imperial Company had long had the price of gas in consideration, and, although he (Mr. Richardson) had no authority for making the statement, he considered he might be justified in informing the meeting that there would shortly be a reduction from 6s. to 5s. per 1000 cubic feet. (Cheers.) In reference to what had fallen from Dr. Gray, he would take care that his suggestions should be forwarded to the proper quarter; but, as to the purity of the Imperial gas, he would have no objection to a chemical test being applied, and in declaring that it was the purest gas now made in London.

Mr. HODGES participated in the satisfaction which appeared to pervade the meeting at the announcement of Mr. Richardson, and congratulated the Imperial Company on having so gracefully made the concession to public opinion. There was another important point, however, and that was the difficulty of obtaining gas in the day time; and he suggested that if the company were to compel all the consumers to burn by meter, they might then put on a day pressure for the supply. (Hear, hear.)

Mr. SODEN, Mr. G. BIRD, and one or two other gentlemen addressed the meeting, and, there being a general feeling that after the declaration of Mr. Richardson the motion of Mr. Belton was unnecessary, he consented to its being withdrawn.

Mr. H. C. WILSON then moved the following:—

"That this committee have heard with great satisfaction that the Imperial Gas Company purpose reducing the price of gas to 5s. per 1000 cubic feet, and at the same time to urge upon the company respectfully the great and paramount importance of directing their earnest attention to the purification of gas as an object essential to the health and comfort of the community."

Dr. GRAY seconded this resolution, and it was carried unanimously, and directed to be forwarded to the Imperial Company.

The meeting separated at a late hour.

ENFIELD GAS WORKS.—The following tenders were delivered in for the erection of these works, of which Mr. J. O. Culyer is engineer:—

	Apparatus and Mains.	Buildings.
A. Toy	£930	—
C. Grey	720	—
Walker and Son	720	—
G. and S. Cutler	665	—
Pulman	—	£495

The price proposed to be charged for gas is 6s. 8d. per 1000 feet.

GOSPORT GAS COMPANY.—The general meeting of this company was held on the 9th ult., and, from the accounts submitted to the proprietors, it appeared that a large extension had taken place on the consumption of gas, it having increased from 3,771,800 feet in the year 1848-49, to 4,490,600 feet in the year 1849-50. The quantity of coal used in the latter year was stated to be 509 tons, and the coke sold, 131 tons. It will be in the recollection of many of our readers that the then manager of these works gave evidence in support of the Great Central Gas Consumers' Bill before the committee of the House of Commons, and more particularly as to the great economy in fuel of the system of clay and iron retorts combined, which, however, the above statement does not bear out, as if the produce in coke of each ton of Newcastle coal be reckoned at 13¼ cwt., it will be found that only $\frac{4}{10}$ths of the coke made had been sold, so that $\frac{6}{10}$ths must have been used as fuel. The then manager has been appointed inspector to the Great Central Gas Company, and is succeeded by a late secretary of the Tottenham Gas Company. The present price of gas at Gosport is 8s. 6d. per 1000 feet.

LIGHTING OF SALISBURY.—It appears from the local papers that the gas company of this city has involved itself in a quarrel with the pavement commissioners, which has resulted in the suspension of the public lighting. The published statements assert that the gas company, not content with the late charge of £3. 17s. 6d. per lamp for a batswing burner consuming 4¼ feet per hour, and lighted during only 9 months in the year (a price equivalent to 4s. 8d. per 1000 feet for the gas consumed), refuses to continue the lighting unless the commissioners will pay after the rate of 7s. per 1000 feet for all the gas consumed by the public lights, or upwards of £5 per lamp, and this in the face of a reduction of 25 per cent. in the price of coal below that of the period when the charge was first fixed at £3. 17s. 6d. To say the least, the present was certainly not the most favourable moment for the raising of such a question by the gas company.

A ROMAN'S OBJECTION TO GAS.—When the chairman of a company, formed for lighting the eternal city, waited on the late Pope, to solicit the required permission, Gregory indignantly asked how he presumed to ask such a thing so utterly subversive of religion. The astonished speculator humbly stated that he could not see the most remote connection between religion and carburetted hydrogen. "Yes, but there is, Sir," shouted the Pope: "my pious subjects are in the habit of vowing candles to be burned before the shrines of the saints; the glimmering candle would soon be rendered ridiculous by the contrast of the glaring gas lights, and thus a custom so essential to everlasting salvation would fall into general contempt, if not into disuse." No reply could be made to this edifying argument. Silenced, if not convinced, the speculator withdrew; the votive candles still flicker, though not so numerously as heretofore, and they just render visible the dirt and darkness to which Rome is consigned at night. The introduction of gas and the fall of the papacy, appear, therefore, to be simultaneous events reserved for the astonishment of the Romans in future ages.